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ABSTRACT

As part of a larger study of the success of women as applicants to and students in the schools of eight health professions, the study of women in medicine has three purposes: (1) to give a brief introduction to the profession, with a sense of the profession's history, work focus, organization, and women's roles and status in it; (2) to give recommendations addressing the problems women experience that are unique to the profession and that are best considered for implementation by the schools themselves or by key professional associations; and (3) by the use of extensive direct quotes from field interviews with administrators, faculty, and students, to vividly describe women's experiences that are not shared by men in the professional training sequence. Some statistical tables are included. (MSE)

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AN EXPLORATORY STUDY OF WOMEN IN THE HEALTH PROFESSIONS SCHOOLS

VOLUME II: MEDICINE

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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WOMEN'S ACTION PROGRAM
Department of Health, Education, and Welfare

EXPLORATORY STUDY OF WOMEN IN THE HEALTH PROFESSIONS SCHOOLS

VOLUME II: WOMEN IN MEDICINE

Prepared for

The Women's Action Program
Office of Special Concerns
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Prepared by

URBAN AND RURAL SYSTEMS ASSOCIATES (URSA)
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I'm glad that I had my child. I worried at first...the first year when I was doing my pre-med work, I really worried about him and people...lots of people...people who I didn't even know very well would say, 'Don't you feel guilty about leaving your son?' or really tactless things like that. I gradually got a sort of an answer for it, but I didn't really stop worrying about him until...oh, I think some time in the first year of medical school. It was becoming more and more clear to me that he was turning out fine. Not just fine as in okay, but marvelous. He was confident; he...you leave him with a sitter and he'd stand at the doorway waving happily good-bye, no tears. He's still attached to me, and yet I began to see that what we were doing was a different lifestyle in that my son was attached to other adults besides his mother and father. He had a baby-sitter that he liked. He had the woman at the day care center that he liked, grandparents in the city, a few neighbors who took care of him. Not only was I not doing him damage, but in some way we were giving him something extra. (Fourth year student, female)

PREFACE

The Exploratory Study of Women in the Health Professions Schools was conducted by Urban and Rural Systems Associates (URSA) for the Women's Action Program (WAP) of the Department of Health, Education, and Welfare (HEW) under Contract Number HEW-OS-74-291. The study focuses on eight health professions generally known and referred to as the MODVOPPP professions: medicine, osteopathic medicine, dentistry, veterinary medicine, optometry, podiatry, pharmacy, and public health.

Study Purpose

The study's central tasks have been to identify and explore the barriers to success which women face as MODVOPPP school applicants and students and to describe the discrimination process, if any, which limits women's entry into these health professions. Its central purpose--indeed its primary product--has been the development of conceptual models of the recruitment, admissions, and education systems designed to maximize equal opportunities for women and to encourage their success as school applicants and students in the MODVOPPP professions. The models are the basis for guidance and recommendations intended to assist HEW, the MODVOPPP educational and professional associations, the MODVOPPP schools, and appropriate others to eliminate barriers women face and/or to minimize their impact.

Study Design and Methods

The study was purposefully exploratory in its design. According to the Request for Proposal (RFP) which resulted in the contract, "The exploratory approach taken for this study is based upon the realization that not enough is known about the process of discrimination to permit more systematic research, or to assess alternative forms of intervention designed to achieve equal opportunity based on sex." A common purpose of exploratory studies is to identify and raise issues important to an understanding of a topic under investigation. The power of exploratory research is to illuminate issues in settings and systems which are complex and where simple variables and variable clusters are inadequate

to explain and establish causal relationships. Thus exploratory studies do not normally test hypotheses, they generate them. Their purpose is not to quantify the frequency, magnitude, or distribution of events or phenomena, nor do they measure statistical correlations among events or between events and characteristics of people, institutions, professions, or other categories of systems variables. Rather their purpose is often to define complex systems through descriptive or predictive models which may be subjected to a variety of tests or evaluations in subsequent stages of research. This study's goal of developing success models for women as applicants to and students in the MODVOPPP health professions schools was thus the basis for selecting an exploratory study design.

URSA implemented the design by collecting and analyzing extensive data about the MODVOPPP professions and schools and other pertinent topics and issues. Information was gathered from the following sources:

- Interviews with almost 600 individual MODVOPPP school administrators, faculty members, and students in 27 MODVOPPP schools around the country. These were open-ended, purposefully unstructured interviews designed to surface the widest possible range of issues from a broad spectrum of respondents. They were supplemented by over 60 group interviews in which an estimated 440 men and women students participated.
- Interviews and correspondence with staff members of the professional association, student association, women's professional association, and/or association of schools and colleges in each of the MODVOPPP professions.
- Written documents prepared by and collected from the MODVOPPP schools and associations such as recruitment brochures, school catalogues, financial aid (loan and scholarship) programs and policies, school admissions committee procedures, descriptions and instructions for use of centralized application services, and so on.
- The professions' various current and, when available, historic journals.

- Available statistics on the professions' practitioners, schools, applicants, and students.
- Interviews, correspondence, and meetings with individuals and groups conducting special studies and research in and about the professions, about women in the professions, sex role behavior and learning, and other related topics; and surveys of available studies, research, and relevant literature in these areas.
- Interviews, correspondence, and meetings with representatives of HEW health policy and program agencies and reviews of pertinent federal legislation, regulations, guidelines, and other documents related to health education policy and programs.

All of this information was subjected to qualitative forms of analysis intended to identify conflict and consensus among various sources of information regarding barriers women face as MODVOPPP applicants and students and to identify exemplary policies and programs sponsored by MODVOPPP schools and associations which appeared to eliminate and/or minimize the impact of these barriers. These analyses were the basis for developing the recruitment, admissions, and education models called for by the contract.

Scope of Study Research: Variations Among the MODVOPPP Professions

MODVOPPP students and schools are all designated as potential recipients of federal financial aid under the Comprehensive Health Manpower Training Act of 1971 (PL 92-157) Public Health Service Act; and schools receiving assistance under the Act are subject to its Title VII affirmative action and non-discrimination requirements.

Inclusion in this Act is the common basis on which the MODVOPPP professions were included in this study. Beyond this common feature, however, and the obvious fact that the MODVOPPP professions are all health professions, preliminary study research suggested that in many significant ways the professions are more different than they are similar and that these differences might have great significance for women as applicants to and students in the schools. The

MODVOPPP professions vary greatly in size, for example, with the largest, medicine, having well over 300,000 active practitioners and the smallest, podiatry, having barely more than 7,000. This variation also appears in the number of operational training institutions with medicine having over 100 schools and podiatry only five. The professions differ in public visibility and general knowledge. Everyone knows of doctors, dentists, and veterinarians and knows generally what they do. Not everyone knows what DOs (doctors of osteopathic medicine) or podiatrists are or what they do. Some of the professions are clearly defined as and accorded the social status and other rewards of a profession while others, in the public view, may be more often thought of as a good occupation or a good business. To some extent varying public definitions of profession vs. occupation vs. business reflect different practice patterns and organization. Some of the professions--for example, optometry--are more often practiced in entrepreneurial business forms such as solo or partnership practice than others such as public health which includes opportunities for practice in schools, hospitals, health departments, and other employer institutions.

Variations in professional training are also great. A first professional degree sufficient for practice is possible in some sections in public health within a year; in medicine the minimum is normally five years and the average, depending on specialty selection, much longer. Cost of training varies. Entry requirements to the schools vary. Curriculum content and structure among professions vary.

Finally, and most obviously, the presence of women as practitioners and as students, both historically and currently, varies enormously among the eight MODVOPPP professions, and some are much more heavily sex-typed than others. In pharmacy, for example, about 9% of the active practitioners were women in 1970; however, increasing enrollments of women in schools of pharmacy resulted in women representing 24% of first year enrollments in 1970-71. By contrast, women represented only 3% of active dentists in 1970 and only 2% of first year enrollments in 1970-71.

These most obvious differences among the professions--and others not so obvious--led the URSA study team to conclude that a portion of our research effort must be devoted to an examination of each of the MODVOPPP professions singly and as a separate and distinct social system with its own particular history, forms of practice, professional and training institutions, and practitioners and students. The purpose of conducting eight "mini-studies" on the MODVOPPP professions was to identify any characteristics of each profession--its history, organization, and other important features--which might contribute to an understanding of the role and status of women in that profession and to an identification of the barriers women face as applicants to and students in the profession's schools.

Organization and Contents of the Final Report(s)

As a result of our decision to conduct these studies of each MODVOPPP profession, the study's findings, conclusions, and recommendations are reported in a ten-volume final report. The ten volumes are:

VOLUME I:	Part 1:	DATA ANALYSIS, FINDINGS, CONCLUSIONS, RECOMMENDATIONS
	Part 2:	APPENDICES
VOLUME II:	MEDICINE	
VOLUME III:	OSTEOPATHIC MEDICINE	
VOLUME IV:	DENTISTRY	
VOLUME V:	VETERINARY MEDICINE	
VOLUME VI:	OPTOMETRY	
VOLUME VII:	PODIATRY	
VOLUME VIII:	PHARMACY	
VOLUME IX:	PUBLIC HEALTH	
VOLUME X:	ANNOTATED BIBLIOGRAPHY	

VOLUME I includes a discussion of the study's major findings regarding barriers women face as applicants to and students in the MODVOPPP professions. It presents the recruitment, admissions, and education models which are designed to eliminate those barriers. It suggests a series of further research and action

recommendations for attention by HEW, the MODVOPPP professional and educational associations, and the MODVOPPP schools. VOLUME I also presents a detailed description of the study's methods.

The several Appendices to VOLUME I include samples of the study's data collection and analysis instruments; a summary of the major issues raised by men and women students in group interviews; financial aid sources, policies, and problems students experience; a survey of the roles and status of women in the MODVOPPP professional associations; statistical tables used by the URSA study team in conjunction with field interview and document review data; and a discussion of data gaps confronting the researcher in the MODVOPPP health professions with recommendations regarding data needs. In this regard, it is important to note and to stress that both the relative absence of minorities in the MODVOPPP schools and professions coupled with the absence of statistical data about applicants, students, and practitioners available by both race and sex simultaneously has necessarily limited the findings and conclusions in this study to Caucasian women. To prevent such research limitations in the future, one of our most urgent data recommendations is that statistical data always be made available and presented by both minority status and sex together rather than singly.

VOLUMES II-IX, the individual MODVOPPP professions reports, are designed to serve as a brief introduction to each profession--an introduction which gives a sense of the profession's history, work focus, organization, and women's roles and status in it. The study's ANNOTATED BIBLIOGRAPHY, VOLUME X, includes a list of the major bibliographic sources used in our research and preparation of all of the study's reports.

Taken as a group, the eight individual professions' studies and reports include the bulk of the total study's findings and are the collective basis for the conclusions and recommendations presented in VOLUME I, DATA ANALYSIS, FINDINGS, CONCLUSIONS, RECOMMENDATIONS. Under optimal circumstances, each individual profession's report should be read in combination with and after VOLUME I. However, in anticipation of the possibility that individual profession's

volumes may be read alone, there is a certain amount of repetition and duplication of information among the eight professions reports and between them and VOLUME I.

In addition to serving as an introduction to each profession, VOLUMES II-IX also have two other purposes. First, each of the individual reports includes a short set of recommendations designed to address some of the problems women experience which are unique or particular to the profession and which are best considered for implementation by either the schools directly or by the profession's various key associations.

Second, the extensive use of direct quotes from our field interviews with administrator, faculty, and student respondents in school site visits provides a vivid description of women students' experiences in the male-oriented environments of the MODVOPPP health professional schools; the extent to which these experiences are unique to women and not shared by male students; and the extent to which these experiences serve as barriers to women as applicants to and students in the schools. Collectively these reports of women's experiences also demonstrate that in spite of the very real and significant size, structural, work, and practice differences among the eight MODVOPPP professions, women's experiences in these professions and their schools are more similar than they are different in many important ways.

WOMEN IN MEDICINE

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INTRODUCTION:
SCOPE AND BOUNDARIES OF THIS REPORT

This report on medicine is the first in a series of individual final report volumes on each of the eight MODVOPPP professions included in this study. Like the other seven, it is designed to present the bulk of our findings from visits to medical schools and from our interviews with school administrators, faculty members, and students. The report has as its purpose a presentation of the main features of the professional educational sequence and institutional environments within which men and women students are trained and socialized as physicians. It is designed to permit comparisons of men and women students and their experiences in medical school and also to allow comparisons and contrasts between medicine and the other professions included in this study. Thus its ultimate purpose is to provide the basis for identifying whatever barriers to success women face as school applicants and students which are unique to medicine and/or common to all of the MODVOPPP professions.

However, in several ways and for several reasons, this report on medicine has a narrower scope and boundaries than do the other professions reports. Medicine is the largest, most powerful, most complex, and generally best known among the eight MODVOPPP professions. It has the most well-documented history; it is the focus of more and more varied research than any of the others. Medicine is at the very center of national debate and public controversy over appropriate definitions of our nation's needs and standards for acceptable health care, the most effective and economic systems for delivering that care, and the appropriate roles that the public and private sectors should assume in health care delivery, research, education, and financing. Thus while a brief introduction to the history and key current trends and issues in the other MODVOPPP professions serves the useful purpose of providing a framework for understanding the educational training sequence and experiences of men and women students in the profession, a brief introduction to medicine's history and to current trends and issues is neither really needed nor possible within the confines of this report. So, instead we have focused more narrowly and briefly on that piece of the profession's history which directly involves women; and our attention to current trends and issues is limited to those very few which we believe have the most

immediate bearing on the organization and purpose of medical education and on those which have special significance for women as medical students and practitioners.

Finally, it is important to note that while the historic and current roles and status of women in medicine have always been topics of interest for a few medical historians, economists, educators, administrators, and social scientists interested in sex role research, in the last ten years the volume of research and literature on women in medicine has expanded at a very rapid rate. Feminists, journalists, health planners and administrators, and many others have added to what has become an enormous amount of material on women in medicine compared to the materials available on women in the other MODVOPPP professions. Because so much is available--and because this is a study of women in eight professions and not just in medicine--we have not attempted to present or summarize the range of research and issues covered in the literature on women in medicine. We have been extremely selective and relied more heavily on our own field data to present women in medicine than on an exhaustive and extensive literature review. We have also intentionally omitted discussion of or extensive reference to topics found in the literature on women in medicine which are not within the defined purpose and boundaries of this study and/or which we found in our field research to have only limited and/or indirect significance for the issue of barriers to women as applicants to and students in schools of medicine. In particular, we do not address the changing roles of allied health professionals, nurses, nurse practitioners, and physician assistants in medicine because these roles are not the focus of this study even though they have obvious significance for the broader role of women in medicine. For the same reason we also do not specifically address the concerns expressed both by many feminists and by some health planners and administrators regarding the political or functional utility or appropriateness of the pyramidal male physician controlled hierarchy which characterizes the organization of most health care delivery systems today.

Finally, we have not discussed or presented the literature or positions of the women's health movement except as these are discussed by either women faculty or students involved in women's health groups in the schools we

visited. Many faculty women and students were aware and supportive of some of the central concerns of the women's health movement, and some students chose to apply to medical schools after positive experiences with various forms of health collectives prior to medical school enrollment. However, the impact of the women's health movement on women in medicine in particular and on medicine in general seems to us at this point in time to be largely indirect and reflected through a set of concerns about rights and quality of medical care which increasingly are shared by men students and faculty and administrators at the more innovative schools we visited. In short, the impact of this movement is reflected through ideas, not through organizations or numbers of women who self-identify as members or supporters of the movement.

I. OVERVIEW

Medicine today is the largest, most complex, richest, and most powerful of the professions included in this study. Its approximately 314,000 active practitioners represented 52% of the estimated 606,000 active MODVOPPP practitioners in 1970 not including holders of advanced public health degrees. Its approximately 54,000 students represented 49% of the estimated 111,000 total MODVOPPP students in 1974-75, not including public health. Its 114 medical schools represented 37% of the 307 MODVOPPP schools in operation in the country in 1974-75. The American Medical Association (AMA), the large and powerful professional association which represents and protects the economic interests of its member physicians, lists 30 recognized medical specialties offered through almost 54,000 affiliated and non-affiliated training hospital residencies around the country; and participates in accrediting 25 medical allied health professions ranging from assistants to primary care physicians to urologic physician's assistants. In 1970 women represented 6.9% of the profession's active physicians ranking medicine second only to pharmacy in proportion of active women practitioners not including public health. And in 1974-75, women were 22.2% of all first year students enrolled in medical schools ranking medicine fourth after public health, pharmacy, and veterinary medicine.

Medicine today is also characterized by great change, movement, and turmoil. Some of the change is the focus for a level of public debate and criticism from which the other MODVOPPP professions are relatively immune. Some represents a level of innovation and experimentation in new forms of organizing and delivering professional care and education which none of the other professions yet seem to match. Many of the changes represent major shifts in our thinking about what medicine and physicians should and should not be, about what they in fact are. And some are simply reflections of the quite profound changing economic, technological, and organizational bases of medicine.

To the physician, the layperson, and the sociologist, medicine until recently has always been the prototypical or model profession. It was viewed rather like a calling, filled by people dedicated to humanity and

service rather than the pursuit of personal wealth and power. It required long years of training to learn and establish competence in the very scientific and esoteric knowledge which was the basis for its claim to special and privileged status. The profession insisted on and maintained control over practice, practitioners, and patients through control of licensing boards, accrediting bodies, hospital boards, specialty certifying boards, and methods and techniques of practice.

All of this is changing. Increasing federal support to medical schools and hospitals has represented to the profession an erosion of its autonomy and ability to maintain sole control over all aspects of medical education and of practice. Various consumer groups including most notably the Women's Health Movement have challenged the physician's traditional authority as the sole determining agent for standards for quality of care and types of care and treatment. And various competing models of treatment and care now challenge the monopoly the medical model of care based heavily on surgery, technology, and drugs has enjoyed since medicine won its historic power struggles with competing theories and schools of treatment in the first decade of the century. Physicians themselves have come under much public criticism and attack as their image of a skilled, dedicated, and sensitive family friend, advisor, and medical professional has been challenged by high fees, substantial personal wealth, and the institutionalized impersonality that the increased specialization which characterizes medical care today represents.

The actual role of the physician has changed greatly during this decade. At the beginning of the twentieth century, the physician represented two of every three health care workers and thus numerically dominated the health care field. Today, of the more than four and one-half million men and women working in 200 different health care occupations, physicians represent only 8% or one of every twelve health care workers. (41, 86) Nonetheless the physician is still very much in control of the total health care process. An individual person is the key decision-maker in seeking care and placing him or herself into the health care system for treatment. However, once the individual is a patient, it is the physician who decides the quality, quantity, type, and cost of health care that an individual will receive.

There are a vast number of drugs a person cannot receive without a physician's orders. It is the physician who orders all diagnostic tests for patients and, with the exception of some mental cases, admission to a hospital is virtually impossible without a physician's orders. Although many services and aspects of care are actually delivered by other health professionals such as nurses, technicians, and pharmacists, these professionals only offer care on instruction from a physician.

The physician's pre-eminent health care role has important ramifications for health care costs--ramifications which are made all the more important by the fact that these costs are rising so rapidly. Physicians not only control their own fees which represent approximately 20% of total health care costs today, but also access to hospital care and out-of-hospital prescriptions which, taken together, represent approximately 50% of the total health care outlay. (76) Physicians thus determine some 70% of total medical expenditures and control most decisions regarding amount, type, and location of care individuals will actually receive. At the same time the tremendous trend toward specialization in medicine has helped to fragment medical practice and accelerate the demise of general practice. Thus, while the physician is in position to control much of the cost of medicine, the fragmentation of medical practice has resulted in a situation where portions of patients get medical care but no one seems responsible for overseeing the well-being of the patient as a whole.

Medical schools and students are responding to these and other changes in medicine with, in the case of schools, some interesting experimentation with curriculum content and structure and in the case of the students, a disaffection with the profession as traditionally practiced. Their responses to changes and trends in medical care today represent what we would characterize as a major inter-generational conflict in the profession--or, more simply, a generation gap.

Because there are many students in medicine, there are many differences in the reasons why students chose medicine as a profession, what they want and expect from it in the longer term for their lives, and what they believe the role of the profession and the characteristics of the ideal practitioner

should be. Within the diversity, however, we found a consistently large number of students who were extremely critical of the profession--a phenomenon we found almost entirely lacking in the other MODVOPPPP professions and one which is most indicative to us of the generation gap in medicine. Large numbers of students--men and women alike--expressed little regard for physicians as people, and in conversation they made a clear distinction between being a person and being a physician. They criticized physicians for having abandoned values of compassion, sensitivity, and commitment to friendships, family, and a broad and varied life style permitting many interests and curiosity as its key features. They want these things for themselves and in exchange generally expressed less interest in monetary success; were most anxious not to work excessive hours; and were interested in various forms of group practice and health care delivered through organized institutional settings as ways of practicing medicine and still "being human" and having a life. Men students in particular were troubled by the absence of male physician role models who combine personal decency and strong family lives and ties with successful medical practice. They questioned as necessary or desirable the old assumptions that a physician's primary and overriding commitment and priorities must be to his/her practice to the exclusion of family, personal interests and hobbies, and other non-professional concerns. And above all, the men students particularly questioned the assumption and expectation which they believed both physicians and patients share, that somehow the physician is and should be godlike and infallible.

Women students also presented a series of contrasts to an earlier generation of medical women in their views of their role as women in the profession. Eight years ago in 1968 when women represented only slightly less than 9% of all medical students, compared to today's 18%, they were profiled and sketched in Lopate's book, Women in Medicine. (57) While many of the opinions, experiences, and points of view expressed by interview respondents in Women in Medicine were clearly shared by many women in this study, a growing number of women appeared to hold and express some different and changing points of view.

The single most outstanding difference between the women in Women in Medicine in 1968 and the women in this study was this younger group's recognition of themselves as a minority in medical schools and a recognition and willingness to talk about what that means for them. The women in 1968 seemed by and large to feel that problems between the sexes in medical training were inconsequential. They felt that, while a woman might need to work harder to establish her competence with faculty members who would expect more errors and less capability from her, they could resolve these issues and function rather unself-consciously within their departments. Many women in the current study shared that perspective, but many also were quite open about their feelings that problems between sexes in medicine are not inconsequential and that consciousness of one's female status is quite often a very salient feature of experiences in medical school.

In 1968 many of the women medical students apparently spoke of their pleasure in being, as women, one of a small, select minority in medical school. They felt they received more pleasant treatment and other advantages from faculty and students as a result. They were reluctant to see more women enter medicine lest those advantages and the privileged status of being one of a few be lost. Our respondents eight years later also included some women who enjoy some of the rewards of being one of a small number of women in a male situation, but a large and articulate group also spoke of the disadvantages they felt are more significant. Thus an increasing number of women stated that their minority status as well as the fact that they are women implies a legitimate need for particular programs and services. These women did not share the point of view that the 1968 women and some women today hold that particular women-oriented programs such as childcare, security services, and part-time residences would simply reinforce their second class status in medicine. Many women also expressd an interest in seeing more women in medicine on the grounds that they believe women have much to contribute and that women in medicine would benefit from having the support of greater numbers available to them.

Because the women in medicine today are still characterized by much self-selection in coming to the profession as they also were in 1968, they convey the same impression of being a rather self-confident group. Earlier

descriptions of women medical students as more passive than men, for example, and more willing than men to accept their medical education without complaint seem to us to be changing. Women's recognition of and concerns for their own status as minorities in medical schools is one indication. The concerns they shared with men over the "dehumanization" of medical training and the emphasis on restraining and limiting one's emotionality and sensitivity which many reject was another.

II. THE PARTICIPATION OF WOMEN IN MEDICINE

INTRODUCTION

The past few years have witnessed a dramatic increase in the participation of women in the profession of medicine. Much of this increase is due to the general changing economic and cultural milieu which allows women to expand their roles, to the demands and changes brought by the Women's Movement with its strong emphasis upon women's health issues and on breaking down barriers of sex discrimination, and to the broad interest of the federal government in expanding the number of health professionals, especially physicians, who are available to serve the health care needs of the nation.

The current enrollment and practice trends of women in medicine represent some dramatic departures from the past, but at the same time, there are striking similarities between the roles of women in medicine today and what they were over a century ago. Thus, before we undertake an examination of current trends regarding women in medicine, we will first place those trends within a broader historical context. In doing so we have chose to rely on a number of excellent sources, each of which has provided us with more information and detail than we could possible include in this section. We encourage the interested reader to go directly to these sources for additional information. (36, 37, 38, 56, 57, 63, 82, 84)

A SHORT HISTORY OF WOMEN IN AMERICAN MEDICINE

Women have been involved in medicine throughout United States history. Ann Hutchinson, a religious dissenter, libertarian, and founder of Rhode Island, was a practitioner of "general physik" in the 1600s (38:22). Female midwives were responsible for assisting during childbirth almost exclusively until the 19th century, and, although male obstetricians increasingly assumed much of this responsibility, in 1910 almost half of all births in the United States were handled by midwives (38:33).

In the 19th century a new era of medical practice began in the United States. The most striking characteristic of this era was the proliferation of several competing philosophies of medicine. Among these were: allopathic medicine,

which had its roots in the traditional European practices of leeching, surgery, and the use of other extreme methods; homeopathic medicine, a curious forerunner to innoculation therapy which saw the cure of disease in drugs which produced effects similar to the disease in question (57:6); and eclecticism, which stressed a wide range of cures, usually from herbal remedies. (57:6) The practitioners of allopathic medicine, with their ties to European legitimacy, were known as "regular" doctors, and their schools as "regular" schools, while their numerous competitors were known conversely as "irregular" doctors and their schools likewise.

The abolitionist and feminist movements of the middle 19th century appear somewhat similar to the civil rights and feminist movements of recent years, especially as they related to the participation of women and minorities in health care delivery. In fact, Ehrenreich and English suggest that the early Popular Health Movement of the 1830s and 1840s, which saw women striving both to learn about their own bodies and to enter medical practice in increasing numbers, is more relevant to the women's movement of today than the suffrage movement of the latter 19th and early 20th centuries. (38:27)

Before, during, and after the Popular Health Movement, women were more widely accepted into "irregular" practice than regular or allopathic. This is because the European tradition had excluded women for centuries. (38:17-18) It is true that a feminist, Elizabeth Blackwell, did enter an allopathic school and in 1848 became the first woman allopathic physician in the United States. But after she graduated, the school excluded women. Dr. Blackwell, together with her sister Emily and a German, Dr. Maria Zakrewska, later founded the Women's Medical College of the New York Infirmary in 1865. (57:6) This was not the first such institution. In 1848, one Dr. Samuel Gregory founded the Boston Female Medical College which was closely followed in 1850 by the Female Medical College of Pennsylvania. (57:8) The latter institution survives today as the Medical College of Pennsylvania, having ceased its single sex status in 1969. (As such, it was the last school to do so. In 1962, Jefferson Medical College, coincidentally located in Philadelphia, became co-ed.) The early history of Women's Medical College of Pennsylvania (the name the school assumed upon re-opening after the Civil War) provides an interesting perspective on the role of women in medicine during the period from 1850 to 1865. In 1846, the American

Medical Association (AMA) had been established. It should be noted that the AMA was not at that time the preeminent body in American medicine. It still had to contend with groups such as the National Eclectic Medical Association. (57:6) However in Pennsylvania the state and county medical societies succeeded in banning graduates of Women's Medical both because "women were unfit for medicine" and because some of the professors were "irregular". The "irregulars" were dismissed in an attempt to placate the societies, but the ban remained until 1874. (57:8) In the interim, Women's Medical had become a staunch regular school no longer entertaining the more radical eclectic or homeopathic philosophies.

While women were becoming allopathic physicians, they were not becoming members of the AMA. In 1868 the issue of female membership came up but was tabled indefinitely. In 1872 the then president of the Association, Dr. Yandell, provided perspective that hints of an underlying issue for the AMA's resistance to women when he said:

> If they [the people] want women doctors, such will be found ready to meet the demand. If those now pressing forward in their studies so eagerly, find their services are not wanted, they will take down their signs, get married--if they can--or turn lecturers, or some more lucrative employment. I hope they never embarass us by a personal application for seats in the Association. I could not vote for that. (57:13)

The above quote, with its supply and demand logic, suggests that women physicians threatened more than Dr. Yandell's sensibilities. Several observers (35,55,57,84) suggest that the economic considerations brought on by the intense competition which all "healers" faced were the controlling factors in the resistance to women for membership in 1870 (37,57), and the AMA was certainly not going to follow suit and intensify competition. Hence when Dr. Sarah Stevenson arrived as an Illinois delegate to the 1876 AMA Convention, her presence was referred to the Judicial Council which did little to change the situation for 40 years. (57:13)

Of course there were some male physicians then as today who felt that a woman's place was in the home. However the ready acceptance of women as nurses after the Civil War suggests that such gentlemen were quite willing and able to have women serve in the role of professional subordinates. (38:34-38) Victorian

sensibilities aside, history suggests that women were more acceptable as handmaidens than as active competitors.

The ascendency of allopathic medicine was assured and consolidated with the Flexner Report of 1910. Observers differ in their interpretation of the motivation for the report. Some suggest that it was a welcome end to the sectarianism in medicine and a victory of science and the scientific method in the profession. Others (38,55) consider it the culmination of the economic struggle brought on by the over-supply of medical practitioners in the latter 19th and early 20th centuries. Whatever its ultimate motivation, the Flexner Report and its aftermath served to put an end to the various sects, including midwifery, in the United States. (Osteopathic and chiropractic medicines survive, but their histories have been of a struggle, often against the allopathic profession, for recognition and the legal right to practice.)

It is Kessel's contention that the Flexner Report primarily served "the highly parochial interests of organized medicine." (55:368) His assertion is also that the role of women in medicine suffered appreciably after the Flexner Report. (55:270-272,274) Many of the schools forced to close their doors after the report was published were co-educational and receptive to women. As Lopate observes, between 1850 and 1895, "nineteen medical colleges for women had been established." (57:15) After 1910 only two remained.

In fact the Flexner Report came out against single sex medical schools. (57:15) However, Shryock contends that between 1910 and 1940 co-educational colleges admitted only small ratios of women. By 1941 six of the 77 medical schools still did not accept women. (84:376) 1974-75 was the first year in history where women constituted at least 10% of all medical school entering classes. (32:306)

A more important point, perhaps, is that 1910 was the high water mark for women in medicine for over 30 years. As Shryock observed in 1950:

> By 1940 the number of women physicians (including osteopaths) was 8,810, which was somewhat smaller than it had been at a high point in 1910. The percentage of women in the profession, moreover, declined from 6% in 1910 to 5.1% in 1940. (84:377)

Thus, whatever the sources or reasons, the fact remains that the role of women as physicians was lessened by the Flexner Report. The modern era for the American woman physician can be dated from 1915 which marked both the admission of women into the American Medical Association and the establishment of the Medical Women's National Association (57:17) (changed in 1936-37 to the American Medical Women's Association, AMWA). (63:487) Lopate provides an interesting historical perspective on these two events and the women they affected:

> Two strains can be detected among the women physicians who have emerged in the twentieth century: one, a small but militant group of women who are involved with the goal of equal opportunity and the other, a much larger segment who have worked quietly with the status quo, rejoiced when opportunities increased, but have not wanted to identify with any "women's movement." While the first group has been represented largely by the American Medical Women's Association, the majority of women physicians have purposely tried to merge their identity and interests with those of the male segment of the profession. When professional societies have been available, they have joined them; if none opened their doors, they have remained unaffiliated rather than pressing for admission of their sex. (57:16-17)

Lopate observes that, for much of its history, the AMWA has been characterized by progressivism, but that its size (never more than one-third of the women physicians) has kept its impact slight. In fact, the AMWA has taken positions contrary to the more staid pronunciations of the AMA championing such issues as birth control, medical insurance, national health insurance, abortion reform and, most recently, rape assistance. In addition, the members of the AMWA have traditionally provided direct medical services to impoverished communities in the US and around the world. (57:17-19) (63:490)

A more immediate and pragmatic concern of the Association has been the promotion of the interests of women in medicine. The services provided to women students have included counseling, loans, and grants. Beginning in 1931 with $100, the loan fund has grown to over $250,000. The AMWA has chosen to honor exceptional women graduates. The Janet M. Glasgow award to each woman graduating first in her class was begun in 1953, and during the next 20 years 141 such awards were made along with 638 citations to women who graduated in the top 10% of their classes. (63:488)

The nature of the AMWA'a history, posture, and focus more closely resembles the professional associations of the other MODVOPPP professions than it does the AMA. Like the American Podiatry Association or the American Osteopathic Association, the AWMA has been the sole voice for its members and has worked to promote their interests, often in the face of opposition from the male medical establishment. The AMWA was not staffed until 1951, and its journal, the Journal of the American Medical Women's Association (JAMWA) was not established until 1943-44. (63:487) Lopate observes that the Journal is perhaps "aimed at a level too low for professionals... of sophisticated scientific interests and training." (57:20) In a sense this serves as a reproach to JAMWA for its crusading posture at a time when people such as Dr. G. Leymaster, past Dean of Women's Medical College and recent Chairperson of the Liaison Committee of Medical Education, believe:

> The struggle for equal opportunity for women... seems to have been won during the last century. The battle having been won, the troops should not be wasted by committing battalions to isolated pockets of resistance worthy of only a squad. (57:21)

The individual and shared experiences of women in medicine as documented by the literature as well as this study suggest that such statements signaling the end of sex discrimination in medicine are somewhat premature. It was only in 1974 that women first comprised at least 10% of each entering medical school class. Partially this lapse reflects the general historical absence of women in professional jobs in our society. However, comments from faculty and administrators included in this report suggest that the medical field has specific resistances of its own which may be partially responsible for the scarcity of women in the profession.

Hence, the role that the AMWA has assumed for itself, while questioned by some, can be justified by others. As such, the Association shares the plight of the emeging MODVOPPP professions. They must try to educate the public to the worth of podiatric or optometric services over the medical sub-specialties with which they compete, just as the AMWA must constantly strive to promote the interests of women physicians. This point is illustrated by the following statement from the 1975 Annual Report of the AMWA. The statement was distributed to the media by the Publicity and Public Relations Committee of the AMWA during the year:

> The American Medical Women's Association (AMWA), the national professional organization for women physicians, is most interested in both dispelling sex stereotyping within the medical profession and in bringing before the public a more honest image of the woman physician.
>
> We have a number of women with varied and exciting backgrounds who would be most desirous of participating in programs with this theme. (3)

In furthering those interests, the AMWA must often align with the AMA against those emerging professions that it in many ways more closely resembles.

Today, while women are enjoying their most significant representation in medicine since the Popular Health Movement of the 1830s and 40s, certain facts are pertinent. Although the U.S. saw an earlier entry of women into medicine than other nations--women were not allowed into medicine in Switzerland until 1870, in Germany or Russia until years later (57:14), and as of late 1974 only Spain, Madagscar, and South Vietnam had lower percentages of women physicians (77:447)--Shryock contends that the early resistance to women in medicine was due in part to a desire to limit the economic competition that women presented, but perhaps even more to the fact "that the entrance of women into medicine was associated with a strong feminist movement." (84:378)

He goes on:

> This aroused resistance of like intensity, among many women as well as men. In Continental Europe, on the other hand, feminism in general was weaker and therefore inspired less alarm. Women seem to have slipped into French, Swiss, and Russian schools almost unnoticed. Except in the latter, moreover, the number of women students remained quite small and so was less likely to arouse opposition. One may conclude, therefore, with the paradoxical observation that the potency of the feminist crusade in this country explains both the pioneer character of the woman's medical movement here and the intense opposition which it encountered. (84:378)

The paradox that confronted the women's health movement of the 19th century may very well be true as well for the women's health movement of the 20th. The AMWA has long been a progressive feminist organization. Moreover, many observers attribute much of the recent dramatic rise in female enrollment in medical school in part to the women's movement. (36:19) As the reader will

find below, these recent students find their motivation challenged, they are often branded as "libbers", and if the current trends continue, may be faced with a significant backlash. Much of the recent history of women in medicine mirrors the past of a century ago. An in-depth examination of the events of that past history has not yet been attempted and needs to be written to assist in the preparations for the future. The following sections of this chapter will attempt to provide a more up-to-date perspective on the current participation of women in medicine in both medical practice and medical education.

THE CURRENT PARTICIPATION OF WOMEN IN MEDICAL PRACTICE

In 1973, 30,568 of the 335,811 physicians in the United States were women. This represents an increase of 13,246 or 76% over the 1963 totals. The percentage of women physicians to the total of all physicians increased from 6.3% to 8.3%. The following table illustrates the difference between 1963 and 1973 totals.

TABLE 1

AGE DISTRIBUTION OF PHYSICIANS, BY SEX--1963 & 1973

AGE GROUP	TOTAL	MALE	FEMALE	Percent Female
		1973		
All ages	366,379	335,811	30,568	8.3
Under 35	96,536	85,482	11,054	11.5
35-44	91,385	84,275	7,110	7.8
45-64	131,628	122,604	9,024	6.9
65 & over	46,830	43,450	3,380	7.2
		1963		
All ages	275,140	257,818	17,322	6.3
Under 35	68,468	63,961	4,507	6.6
35-44	75,108	70,189	4,919	6.5
45-64	97,818	92,312	5,503	5.6
65 & over	33,746	31,353	2,393	7.1

SOURCE: DHEW/HRA Women in Health Careers, Chartbook for International Conference on Women in Health, Washington D.C., 1975. Table 13, p. 28.

As Table 1 shows, in 1963, women physicians were almost uniformly distributed by age throughout the total physician population, suggesting that women traditionally comprised between five and seven percent of the yearly physician output of medical schools. The 1973 totals suggest some dramatic changes. It is interesting to note that the representation of women has expanded not only in the under 35 category but also in the 35-44 age category. The only category that has remained stable (grown in the same proportion to the overall total) is the 65 and older age group. The magnitude and the recency of the change is perhaps best illustrated by the fact that in 1973, 36% of all female physicians were under 35, in contrast to only 25% of the men.

Active Status

As Lopate observes:

> Whereas prejudice against women in medicine during the latter half of the nineteenth and early twentieth centures was founded on assumptions such as its being "unnatural" to a woman, ill-fitting her delicate state and even the dignity of the male, statements against recruiting women into medicine have more recently been based on lower rates of practice. (57:25)

Throughout our study, male students, faculty, and administrators observed that "women do not practice as long or as much as men and as such are problems." This is a widely held belief, but it is difficult to document or dispute.

Much of the confusion over the activity status of women physicians is due to the problems with available data. The AMA has traditionally been the source of almost all data on physicians. When the AMA does not have address records of individual physicians, those physicians are not included in its surveys and statistics. Our study suggests that recent years have witnessed a growing lack of interest in AMA membership among younger physicians thus compounding the records and data problem. There has also been a rise in apparent inactivity among all physicians (see Table 2 below) as inactivity is defined by the AMA. In spite of these problems of documenting inactivity (and the data on which it is based), it appears that there has been a substantial change in the practice patterns of women physicians. This is best described by Table 2, which details the change between 1963 and 1973 in the professional activity status of physicians.

TABLE 2

PROFESSIONAL ACTIVITY STATUS OF PHYSICIANS (MDs)
BY SEX: 1963 and 1973

STATUS	TOTAL	%	MALE	%	FEMALE	%
			1973			
Active MDs	324,367	100	300,013	92.4	24,354	7.6
Inactive MDs[1]	42,012	100	35,798	85.2	6,214	14.8
Total MDs	366,379	100	335,811	91.7	30,568	8.3
			1963			
Active MDs	261,728	100	246,771	95.7	14,957	4.3
Inactive MDs[2]	13,412	100	11,047	82.4	2,365	17.6
Total MDs	275,140	100	257,818	93.7	17,322	6.3

[1]Includes physicians who are inactive, not classified as to activity, or address unknown to AMA.

[2]Excludes 1,335 physicians with address unknown to AMA.

SOURCE: *G.A. Roback, Distribution of Physicians in the U.S., 1973. Regional, State, County and Metropolitan Areas, American Medical Association, Chicago, 1974, p. 38.*

C.N. Theodore, J.N. Haug and B.C. Martin, Special Statistical Series--Selected Characteristics of the Physician Population, 1963 and 1367, American Medical Association, Chicago, 1968, p. 22.

AMA Center for Health Services Research and Development, Special Tabulations on Women Physicians, 1973--AMA Physician Master File (unpublished), American Medical Association, Chicago.

According to Table 2, in 1963, women represented 17.6% of all inactive physicians. In 1973 this percentage had decreased to 14.8%. In addition, by 1973 the proportion of active women physicians more closely resembled the total proportion of women physicians (7.6% to 8.3%) than was the case in 1963 (4.3% to 6.3%).

In examining inactivity in general, it appears that the proportion of inactive physicians increased from 4.8% to 11.4% of the total of all physicians during the decade. In terms simply of changes in the numbers, male physician inactivity increased 324% while female physician inactivity increased 262%.

Taken at face value, the table suggests a substantial increase in inactivity among physicians. A more measured interpretation perhaps is that the statistics used to identify inactivity are neither complete nor accurate. If the latter interpretation is correct, then it would follow that past statistics on inactivity, especially women's inactivity may also be suspect. At any rate, the issue of inactivity is clearly one that can be and perhaps has been affected by faulty statistics.

The issue raised in discussions of activity status needs to be examined. It is not our purpose here to analyze the need for a reassessment of the basic criteria for evaluating physicians. However it should be recognized that in the minds of many informants in this study, the length and scope of a physician's practice is a concern of the highest priority. Otherwise qualified applicants, male and female, have been denied admission because of their age (over 26) because they "will not devote enough years to medicine." The admission of females into medical schools is questioned because of possible years lost to the profession while a woman bears children. While everyone agrees that the quality of care a physician will provide is important, decisions to admit or not admit a student are often based on the more clear-cut and static criteria that were established by the Flexner Report in 1910.

Our study suggests that women have faced differential treatment from their fellow students, faculties, or administrators because it is assumed that they will practice less and hence be less productive. At the same time, it

appears that the medical system in the U.S. lacks clear definitions of physician productivity in terms of economics, service, quality, and efficiency. For example, if women work fewer hours but do so in public agencies which are concerned with preventive medicine (and which have regular and limited hours), they may be performing a needed task. As Matthews suggests:

> It would appear that it is the nature of the jobs women hold, rather than the nature of women themselves, that tends to limit their hours of medical practice. The types of fixed-hours, salaried positions many women hold might be construed as making women, in fact, more 'marginally valuable' (in the economic sense) to the medical system as a whole than men are; that is, women often fill those types of medical positions known to be difficult to staff and yet critical to national needs. (59:1030)

The above discussion suggests that medical practice issues such as productivity and length of practice should be reassessed. The traditional methods of assessing productivity need to be re-examined, since they have often been fortified by misleading statistics and often disregard critical issues of quality and type of care provided. Moreover, they have frequently operated to the detriment of women.

Practice Patterns of Women Physicians

Table 3 on the following page details the changes in the professional activities of physicians between 1963 and 1973. As the table illustrates, there have been changes in the practice patterns of women between 1963 and 1973. (Since the table is based on the same data as the preceding table on inactivity, it may reflect the problems discussed above.) The percentage of women involved in patient care decreased from 91% to 88% of all women physicians. Male physicians exhibited the same phenomenon, going from 95% to 91% over the ten year period. Withing the basic area of patient care, women's practice patterns also changed considerably. The percentage of women physicians involved in office-based practice dropped from 63% to 50% of women involved in patient care, and conversely, those employed on a full-time basis by hospitals increased from 14.4% to 18.2%.

TABLE 3

PROFESSIONAL ACTIVITY OF PHYSICIANS (MDs)
BY SEX: 1973 AND 1963

Professional activity	Total	Male	Female	Percent female
		1973		
Patient care	295,257	273,713	21,544	7.3
Office-based practice	201,435	190,637	10,798	5.4
Intern/resident programs	58,252	51,422	6,830	11.7
Full-time hospital staff	35,570	31,654	3,916	11.0
Other	29,110	26,300	2,810	9.7
Medical school faculty	6,183	5,422	761	12.3
Administration	11,959	10,960	999	8.4
Research	8,332	7,590	742	8.9
Other	2,636	2,328	308	11.7
		1963		
Patient care	246,951	233,330	13,621	5.5
Office-based practice	179,449	170,881	8,568	4.8
Intern/resident programs	38,516	35,431	3,085	8.0
Full-time hospital staff	28,986	27,018	1,968	6.8
Other	14,777	13,441	1,336	9.0

Source: *G.A. Roback, Distribution of Physicians in the U.S., 1973. Regional State, County and Metropolitan Areas, American Medical Association, Chicago, 1974, p. 38.*

C.N. Theodore, J.N. Haug and B.C. Martin, Special Statistical Series--Selected Characteristics of the Physician Population, 1963 and 1967, American Medical Association, Chicago, 1968, p. 22.

AMA Center for Health Services Research and Development, Special Tabulations on Women Physicians, 1973-AMA Physician Master File (unpublished), American Medical Association, Chicago.

In comparison, the proportion of male physicians involved in office based practice decreased only 1%, from 69% to 68% of male physicians active in patient care over the period. The same was true for those involved in patient care activities in hospital based practices who dropped only .2% from 11.7% to 11.5% of all male physicians in patient care.

If the above data are correct they suggest that the practice patterns of women are changing in ways that are not necessarily reflective of the medical profession overall. In general women appear more likely to enter employment positions than private practice. Moreover, it would appear that much of the change is due to the career choices of recent female medical school graduates. In this they are a unique group. For example, their male counterparts appear to more closely resemble the practice patterns of the overall medical profession.

PARTICIPATION OF WOMEN IN MEDICAL EDUCATION

Faculty

As the preceding table indicates, the practice category with the highest proportion of female representation is academic medicine. Table 4 details this representation for the years 1971-72 and 1973-74. (See Table 4 on the following page.)

As the table shows, the proportion of female MD faculty grew from 9.0% to 9.5% of all MD faculty in medical schools. At the same time female enrollment grew from 10.8% to 15.9% of total enrollment. One of the problems that women medical students consistently cited during this study was the scarcity of role models in high status or respected positions. For fuller discussion of how this scarcity affects women medical students, see Chapter V, Men and Women Students.

Female clinicians are rare, and the need for them is great. Much of the clinical training process is carried out through subtle, often non-verbal messages regarding appropriate physician behaviors and personal characteristics. If the teaching clinician is male, and if he expects certain types and kinds of performance from his students, he may often treat female students differentially because of their inability of unwillingness to demonstrate those

characteristics and behaviors which are often identified as male in our society. Conversely, women students report that their clinical experiences are often the most discriminatory and difficult that they face.

TABLE 4

EMPLOYMENT CHARACTERISTICS OF MEDICAL SCHOOL FACULTIES BY SEX: 1971 AND 1974

Characteristic	Total	Male	Female	Percent female
	1973-74			
All faculty members	37,180 [1]	31,623	5,438	14.6
Degree				
M.D.	24,342	21,952	2,325	9.5
Ph.D.	9,626	8,229	1,378	14.3
Other	3,212	1,442	1,735	54.6
Department				
Basic sciences or clinical specialties	35,431	30,500	4,816	15.3
Library	218	58	160	73.3
Allied health	658	286	370	56.4
Administration	500	460	39	7.8
All other	373	319	53	14.2
	1971-72			
All faculty members	34,658 [2]	29,499	5,046	14.6
Degree				
M.D.	22,615	20,512	2,041	9.0
Non-M.D.'s	12,043	8,987	3,005	25.1
Department				
Basic sciences or clinical specialties	32,874	28,362	4,405	13.7
Library	230	66	164	71.3
Allied health	648	260	386	59.6
Administration	532	495	35	6.6
All other	374	316	56	15.0

[1]Male and female will not always add to total faculty, due to 119 faculty who did not indicate their sex in survey.

[2]Male and female will not always add to total faculty, due to 113 faculty who did not indicate their sex in survey.

SOURCE: Association of American Medical Colleges, Division of Operational Studies, Data on distribution of full-time and part-time salaried faculty in U.S. medical schools by sex and ethnic group, 1973-74, (unpublished). Also see unpublished data for 1971-72.

National Institutes of Health, Profiles of U.S. Medical Schools Faculty, 1971, Resources of Biomedical Research Report No. 20, 1974, U.S. Department of Health, Education, and Welfare, 1974.

Students

Enrollment

The number of women in medical school in the US has more than tripled since 1968-69 and the proportion of women medical students to all medical students has more than doubled. Table 5 illustrates these points.

TABLE 5

MEDICAL SCHOOL ENROLLMENT BY SEX 1968-1975

	Total	Male	Female	Percent Female
1968-69:	35,833	32,697	3,136	8.8
1969-70:	37,690	34,298	3,392	9.0
1970-71:	40,238	36,360	3,878	9.6
1971-72:	43,399	38,709	4,690	10.8
1972-73:	47,366	41,284	6,082	12.8
1973-74:	50,716	42,892	7,824	15.4
1974-75:	53,554	43,893	9,661	18.0

Sources: *Years 1939-40 through 1964-65 from JAMA, 74th Annual Report, 1973-74, page 18.*

Years 1968-69 through 1974-75 from Minorities & Women in the Health Fields, page 16.

It is interesting to note that the bulk of the increases have been achieved since 1971 due in part to the impact of the Comprehensive Health Manpower Training Act (CHMTA) of 1971 on medical education. Between 1970 and 1975 twelve new medical schools opened and enrollments increased by over 13,000 students. Women have accounted for more than 5,700 or 43% of this increase. Moreover since 1970, the number of women in medical school has increased by 150% while the number of men has only increased by 21%. The implications of these recent trends for women in particular or the medical profession and medical education in general cannot yet be assessed.

In order to get a clearer perspective on the changes that have been brought about by the CHMTA one need only examine the first year enrollment figures for medical schools over an extended time.

TABLE 6

FIRST YEAR MEDICAL SCHOOL ENROLLMENT BY SEX
1929-30 to 1974-75

	Total	Men	Women	Percent Women
1929-30	6,457	6,166	291	4.5
1939-40	5,794	5,498	296	5.1
1949-50	7,042	6,648	394	5.6
1959-60	8,173	7,669	504	6.2
1968-69	9,863	8.976	887	9.0
1969-70	10,422	9,474	948	9.1
1970-71	11,348	10,092	1,256	11.1
1971-72	12,361	10,668	1,693	13.7
1972-73	13,677	11,377	2,300	16.8
1973-74	14,124	11,338	2,786	19.7
1974-75	14,763	11,488	3,275	22.2

Data from 1929-30 thru 1959-60 taken from "Women in Medicine", Nina Woodside.

Data from 1968-69 thru 1973-74 taken from Minorities and Women in the Health Fields, p. 14.

Data from 1974-75 taken from Women in Health Careers.

As Table 6 suggests, there was relatively little change in the first year enrollment of women between 1929 and 1959. (During the years of the Second World War, women represented a larger proportion of medical students than the table would indicate. In 1949-50, 595 or 10.7% of graduating medical students were women. Over the next decade the numbers of women graduates diminished. The graduating class of 1960 had 5.7% or 405 women. In fact it was not until 1974 that the proportion of women graduates equaled or exceeded 10.7%. One thousand two hundred and sixty-four women or 11.1% of the senior class graduated that year. (52:18) Since 1959, however, the increase of women students has been dramatic. The 1974-75 entering women represented 22.2% of their class. They represented a net increase of 489 more women than the previous entering class. They also represented a net increase of 2,984 for almost 50 years. Since 1972, there has been little change in the number of entering male medical students.

The increase in female enrollment in part can be attributed to the overall expansion in medical school enrollment. In this regard, it should be noted that the impetus created by the CHMTA of 1971 has been somewhat dissipated, and current federal financing proposals are tied more to students and their practice patterns than overall medical school expansion. In fact the net increases in enrollment between 1973-74 and the present have been accomplished without opening any new schools. It should also be remembered that while women represent a significant average percentage of medical students overall, they still are under-represented on numerous medical school campuses. Table 7, which displays changes in the number of schools enrolling more than 10% women over time, is included here to provide the reader with a better perspective on women's enrollments in medical schools.

TABLE 7

US MEDICAL SCHOOLS ENROLLING 10 PERCENT OR MORE WOMAN STUDENTS FOR SELECTED YEARS FROM 1944-45 TO 1972-73

	NUMBER OF SCHOOLS	
YEAR	TOTAL	WITH 10% OR MORE WOMEN STUDENTS
1944-45	77	3
1949-50	79	10
1954-55	81	3
1959-60	85	4
1964-65	87	14
1969-70	101	25
1970-71	102	31
1971-72	108	56
1972-73	114	84

SOURCE: W.F. Dube, "Women Students in U.S. Medical Schools: Past and Present Trends", Journal of Medical Education, Vol. 18, February 1973, p. 189.

In this regard it should be noted that it was not until the 1974-75 entering medical school class that 10% or more of all medical school first year classes were women. (18:306)

Retention

Just as women physicians are expected to practice less than their male counterparts, women medical students are expected to suffer higher attrition rates than their fellow male students. Our study suggested that, in recent years, women experience an equal or possible lower attrition rate than men. Our data, however limited for such purposes, tends to support what other observers are saying for current classes. A 1966 AAMC study of attrition from medical school revealed that of all students who entered from 1948 to 1958, 16% of the females failed to graduate as compared with only 8% of the males. Although the proportion of academic dropouts was quite similar (5% for men versus 7% for women), there were almost 2.5 times as many non-academic dropouts among the women as among the men (8% versus 3%). The study also found that approximately 10% of these female non-academic dropouts discontinued their studies primarily because of marriage and pregnancy. (49:1141)

Table 9 details the findings of that study.

TABLE 8

ATTRITION BY SEX, 1949-1958 ENTRANTS

SEX	TOTAL ENTRANTS		ACADEMIC DROPOUTS		NONACADEMIC DROPOUTS		TOTAL DROPOUTS	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
MALE	71,140	94.28	3,541	4.98	2,346	3.30	5,887	8.28
FEMALE	4,313	5.72	316	7.33	353	8.18	669	15.51
TOTAL	75,453	100.00	3,857	5.11	2,699	3.58	6,556	8.69

SOURCE: D. Johnson and W. Sedlacek "Retention by Sex and Race of 1968-1972 United States Medical School Entrants" Journal of Medical Education 50 (October 1975); 929-933.

More recent statistics tend to indicate that the difference between the relative attrition rates of men and women is narrowing.

TABLE 9

MEDICAL STUDENTS ADMITTED 1971-1972 THROUGH 1973-1974 AND STILL IN SCHOOL JUNE 1974, BY SEX

	MALE			FEMALE		
		RETAINED			RETAINED	
	ADMITTED	NO.	%	ADMITTED	NO.	%
1971-1972	9,504	9,130	96.1	1,458	1,370	94.0
1972-1973	10,467	10,160	97.1	2,053	1,958	95.4
1973-1974	10,550	10,366	98.3	2,512	2,476	98.6

SOURCE: E. Weinberg and J. Rodney, "The Academic Performance of Women Students in Medical School", Journal of Medical Education, Vol. 48, March 1973, pp. 240-247.

In analyzing the data, the author had this to say:

> With the limited data, it is not possible to provide a satisfactory interpretation of the results, but two possible explanations are suggested. It may be that for the first time, female medical students have reversed the previous situation in which the dropout rate has been higher for female than for male medical students. On the other hand, it is also possible that these figures represent a similar dropout rate for men and women in the first year, with a higher female dropout rate in the succeeding years. Since the numbers of students transferring to other medical schools and of students taking a leave of absence to pursue other studies have been removed from these figures as far as possible, the first possibility seems most likely. (95:18)

All of the authorities agree that non-academic attrition rates are higher for women than men. While to some degree this is due to women dropping out for marital reasons including pregnancy, our study suggests that increasingly women are attempting to demand and create situations such that they need not drop out to raise children. However, our data also suggest that the negative experiences some women encounter during medical school may in fact account for some non-academic attrition among women.

At present the data regarding attrition is incomplete, but it is essential that records be upgraded and maintained to follow the modern medical student throughout his or her career. The following chapters are an attempt to assess the process, detail some of the experiences, and identify some of the institutional structures and inter-personal behaviors that are present today in medical education which support or confront the woman medical student.

III. PROFESSIONAL EDUCATION

SOME CURRENT TRENDS AND ISSUES

A number of recent changes in the cost, adequacy, organization, and sophistication of health care delivery in this country have had profound effects on and implications for health education. Since the Flexner report outlined the preferred curriculum content and structure of medical education over sixty years ago, medical education had been characterized by its expense, inflexibility, lack of variation and experimentation in method from school to school (55), its limited ability to produce sufficient quantities of physicians to meet the nation's health care needs(22), and its increasing production of specialists and research physicians in response to the expansion of scientific and technological knowledge but at the expense of the primary and family care physician. (18)

In 1970 the Carnegie Commission in its report on Higher Education and the Nation's Health emphasized that acute shortages of physicians along with physician specialty and geographic maldistributions were among the nation's most immediate critical and pressing health problems requiring solution. The report suggested that shortening the medical curriculum to three years, expanding the number of students per class, and providing a variety of economic incentives to attract students into different specialties and rural and urban ghetto practices were among needed problem interventions and possible solutions to the shortage and maldistribution problems. These recommendations were incorporated into federal health education financing legislation, the 1971 Health Manpower Act. Schools faced with mounting medical education costs responded to the incentives of federal financing in the last several years by shortening their curriculum, expanding class sizes, establishing new departments of family and community medicine, and in general beginning to experiment with curriculum content and structure and breaking-up the old traditional patterns of medical education characteristic of the whole medical education enterprise.

Some experiments have also been responses to new and anticipated changes in forms of health care delivery. Mounting health care delivery costs have stimulated interest, research, and some experimentation in new

organizational forms of care including a variety of types of group practice, pre-paid health plans, federally-sponsored Health Maintenance Organizations (HMOs), and others. The role of physician in these forms of care is seen by most medical educators and experts to be significantly different than it is now. The physician is described as more an administrator and manager of other professionals and allied health professionals making up a health care team, less a direct deliverer of patient services. (18) Thus educators have looked for new ways to prepare students for a changing physician role including experiments with inter-professional (inter-disciplinary) team teaching, increasing emphasis on electives and decreasing emphasis on a required core curriculum for all, and encouragements to students to go outside of medical schools and departments for courses in social sciences, communications skills, and (public health) administration.

Finally, most medical observers have noted that the rapid explosion in medical, scientific, and technical knowledge has reduced the "half life of medicine to about five years". (18) These observers argue that the lengthy medical training process built on a large core curriculum and limited electives is obsolete in the face of the rapid changes in medical knowledge. They argue for a shortened curriculum with emphasis on electives and a set of structures and programs to support a continuing physician education effort which is an ongoing and significant part of the whole of the physician's professional practice life.

Some of these changes in medical education may have already had an important impact on women's role and participation in the profession, some may have important implications for the future. Many of the administrators and faculty members we interviewed--particularly those in new and/or innovative medical schools--suggested that the pressure on schools in recent years to increase class sizes has worked to women's advantage because they represented a pool of untapped talent which allowed the schools to expand while still seeking the best students. For new schools without established reputations, this was frequently cited as a particularly important reason why their classes often tended to have large proportions of women--that is, the schools were not competitive for the best male talent in the applicant pool so they were responsive to admitting the best female talent instead.

Schools with innovative curricula--particularly those emphasizing a host of electives, early clinical experience, and the possibilities for shortened training--have had appeal for many of the women we interviewed. Since many women appear to come to medicine more interested in patient care than in research, flexibility in curriculum and correspondingly less emphasis on a heavy science-based research-oriented core curriculum is appealing.

In the future, the need for substantial continuing education programs for practicing physicians may be of particular value to the part-time physician and/or the physician who chooses to be inactive for short periods of professional life. Traditionally these have been women physicians, but increasingly they include men. To the extent that both men and women physicians choose more flexible life-styles around personal and professional commitments, the necessity for continuing education to off-set knowledge obsolescence will support and permit both groups these choices.

THE TRAINING INSTITUTIONS

US medical schools have four basic responsibilities:

- Educating students in medicine and developing in them the habits of scholarship and service;
- Advancing knowledge through research in natural, social, and administrative sciences;
- Developing graduate education to produce practitioners, teachers, and researchers;
- Participating in continuing education.

In order to meet these responsibilities, medical schools must employ faculty and develop curricula to provide:

- Basic medical education,
- Graduate specialty training,
- Varied programs to meet varied professional needs,
- Flexibility to suit individualized needs and interests,
- Opportunities to engage social and ethical concerns.

The 135 medical schools in the US and abroad accredited by the AAMC fall into three very broad categories:

- Health Sciences Centers,
- Academic Medical Centers,
- Medical Schools.

Health sciences centers unite various science and health professions programs at universities. Using the same facilities, departments, and faculties, health sciences centers graduate a wide range of health professionals, allied health professionals, and basic and social science academic professionals.

Academic medical centers commonly educate more than one health profession, but not the entire range. Being within academic universities or themselves universities, they engage in significant research efforts in addition to their education of practitioners. They devote substantial sums to research facilities and faculties, graduating large numbers of basic scientists.

Medical schools and colleges exist both independently and as part of larger academic settings. They may or may not engage in research but their primary function is that of medical education.

The clinical portion of medical school education takes place in a variety of hospitals. Some medical schools have their own hospitals, run and financed by a university or college governing board. Other schools rely on hospitals with which they are contractually affiliated. In order to be certified as training sites, these hospitals must provide required facilities, equipment, faculty,and departmental strengths. There are financial and educational profits for both schools and hospitals in affiliation. Schools acquire a certain educational control over hospitals through faculty appointments to their clinical faculty. They also find placements for their medical students, graduates, and clinical faculty.

Hospitals often acquire status by affiliation through increased access to new graduates, techniques, equipment, faculty,and researchers. In addition, their financial health may be ensured by joining with the considerable resources of medical schools.

The 114 US medical schools range in medical student enrollment from fewer than 100 to more that 1,100 with a cumulative grand total of over 50,000 medical enrollees. The average medical school enrolls between 400 and 600 medical students. Tuition ranges considerably among public (65 schools) and private (49 schools) schools and between resident and non-resident medical students from a low of $500 to a high of $4,500 annually. (27:102-107)

As a result of the variety of medical school functions, faculty-student ratios (1.5-3.6) are quite low by comparison with other graduate educational programs (6.0-8.0). (22:51) Within the past few years, there has been a decline in both the medical faculty-medical student ratio (1.7 in 1966-67 down to 1.5 in 1973-74) as well in the medical faculty-total student ratio (4.1 in 1966-67 down to 3.6 in 1973-74). (See Table 10.)

TABLE 10

NUMBER OF FULL-TIME FACULTY, MEDICAL STUDENTS, AND TOTAL STUDENT EQUIVALENTS IN US MEDICAL SCHOOLS

	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	1971-1972	1972-1973	1973-1974*
Full-time faculty	19,296	22,163	23,014	24,706	26,504†	29,469†	33,550†	33,172
Medical students	33,423	34,538	35,833	37,669	40,487	43,650	47,546	49,808
Medical student-faculty ratio	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.5
Total student-equivalents	79,724	86,319	91,046	92,678	98,012	109,984	118,587	119,568
Total student-equivalent-faculty ratio	4.1	3.9	4.0	3.7	3.7	3.7	3.5	3.6

*Yale did not report faculty; Harvard did not report students; both schools are excluded
†Harvard did not provide figures for 1970-1971; Missouri—KC and Nevada did not provide figures in 1971-1972; Missouri—KC did not provide figures in 1972-1973.

SOURCE: "Medical Education in the United States, 1973-74", 74th Annual Report, Crowley, Journal of the American Medical Association, p. 16.

Medical school faculties are taking increased responsibilities for the education of persons other than medical students such as interns, residents, pre-doctorals (academic), nurses, paramedics, and others. In 1963-64, medical students accounted for 49% of faculty responsibility, while in 1973-74 they represented only 42%. (See Table 11.)

TABLE 11

CHANGE IN TEACHING RESPONSIBILITIES OF MEDICAL SCHOOL FACULTIES, 1963 - 1974

	1963-1964	1968-1969		1973-1974	
	No.	No.	% Change	No.	% Change
Interns	3,817	4,860	27.3	6,557	34.9
Residents	14,179	18,602	31.2	29,042	56.1
Predoctoral	4,704	9,743	107.1	11,146	14.4
Nurses, paramedical, and other equivalents*	9,726	15,842	62.9	21,569	36.1
Subtotal	**32,426**	**49,047**	**51.3**	**68,314**	**39.3**
Medical Students	32,001	35,833	12.0	50,217	40.1
Totals	**64,427**	**84,880**	**31.7**	**118,531**	**39.6**

Computed in equivalency to medical students.

SOURCES: "Medical Education in the United States, 1972-74", 74th Annual Report, Crowley, Journal of the American Medical Association, page 16.

In addition to these more varied responsibilities for faculty, and in order for medical schools to pursue their objectives, schools employ many research faculty whose student contact time is slight; however such research provides a source of sustaining financial aid to medical schools. Similarly, much clinical faculty time is spent in direct patient service for fee payments. A decrease in student contact time may have important financial implications as patient fees are one source of school finances.

Medical Curriculum

> The minimum number of months required for the undergraduate curriculum varies among schools. Students in many schools exercise options regarding the overall duration of their undergraduate medical education. The clinical clerkships in the major clinical areas continue as an almost universal requirement. Many schools have developed a component of the curriculum to introduce the student to family medicine or have organized other curricular components to emphasize primary care. Further evidence of the diversity among US medical schools can be seen in the variety of systems for recording of student performance, the degree to which National Board examinations are used, and the availability of performance assessments to students.
>
> ...109 US schools indicated a range between 27 and 48 months for the curriculum. In 59 schools the MD degree may be earned in less than four years. In 50 schools the MD degree requires at least four years. In the schools with the traditional four-year program, the median length was 38 months with a range between 32 and 48 months. Schools indicating that the less than four years had a curriculum with a median duration of 36 months and a range between 27 and 38 months.
>
> Eleven schools required all students to participate in a "three-year" curriculum. Four of these schools reported a curriculum of 36 months and four reported 33 months. The other three schools indicated the duration as 35, 34 and 32 months.
>
> All other schools have less than 90% of the students enrolled in a "three-year" program. In 1972-73, 12 schools reported 90% or more of their students to be participants in programs of 36 months or less. The corresponding number for 1971-1972 was six schools.
>
> An additional 18 schools reported that less than 90% but more than 10% of their students are using an available option to complete their undergraduate medical education in 36 months or less.

> Less than 10% of the students at 30 schools elected to use an available option to complete the curriculum in 36 months or less, and 12 schools, which indicated the possibility of completing the curriculum in less than four years, stated that none of their students were participating in a three-year curriculum.
>
> The option to complete the curriculum in less than four years was available in 59 schools in 1973-74, in 46 schools in 1972-73, and in 40 schools in 1971-72. Notes on some questionnaires suggest that at some schools, students may use vacation periods to telescope the time for completion of the curriculum but not to the extent that the option can be considered in the "three-year" category. (27:23-24)

There are indications that experimentations with shortened curriculum continue to be widespread but that they are often found insufficient. For example, 15 schools which had reported a three-year graduation option in 1973-74 did not report having that option in 1974-75, while seven other schools have added that option since 1973-74. Similarly, seven schools which had required a three-year program in 1973-74 dropped this requirement, while only five schools have added this requirement. (7)

Curricular Developments

> Nearly every medical school in the country has instituted a more or less intensive review of its own teaching approaches, and many have followed such reviews with a series of reforms. The traditional curriculum provided emphasis on the content of material, and the material, for the most part, was presented as consisting of separate disciplines. Features of the new curricula include greater correlation between the clinical and basic sciences, emphasis on function rather than structure, introduction of multiple track systems, and more elective time.
>
> A characteristic of medical curriculum change is that most schools now have students participating to a significant extent in curriculum deliberations. It has become increasingly common for students to be appointed as working members of curriculum committees.
>
> Almost all medical schools now provide formal or informal opportunity for individuals to pursue such activities as independent study, honors programs, and special research projects. Most of the schools allow elective periods of varying length and offer a number of summer research fellowships or participation in health care delivery systems to

> either urban or rural individuals not having access to medical care. Study or research abroad can be arranged through many medical schools or their parent universities.
>
> Students may study simultaneously for an advanced degree in a basic science and for the M.D. degree. Most medical schools offer combined programs in anatomy, biochemistry, bioengineering, biophysics, microbiology, pathology, pharmacology and physiology. Some schools have a formal combined M.D.-Ph.D. program; of those that do not, almost all provide opportunity for special arrangements. Opportunities for dual preparation in law and medicine are also becoming available.
>
> A few schools admit students with appropriate qualifications to special programs which enable qualified Ph.D.s to become M.D.s within a period of 18 to 24 months. The purpose of these programs is to provide a specially designed route to the M.D. degree for applicants with particularly strong backgrounds in the biological, physical or engineering sciences. (8:44-46)

While curriculum variety exists, traditional patterns still continue. For example:

> Of the 111 schools offering clinical instruction during 1973-74, clerkships in medicine, pediatrics, psychiatry, obstetrics, and surgery are required in 103 of the schools.
>
> Two schools do not list a required clerkship in psychiatry, but clinical teaching of this subject is included in one or more of the other clerkships that are required. (27:24)

Schools are altering their curricula in different ways to accomplish new medical objectives. For example:

> Eighty-five schools have formal programs for teaching family medicine to medical students. In 55 schools, this program is recognized as a department. In five schools, family medicine is a division within a department. Seventeen replies stated that this discipline is organized as a division.
>
> Thirty-five schools indicated the sponsorship of programs for teaching primary care, including 23 that also have programs for teaching family medicine.
>
> Fourteen programs involve two or more of the major clinical departments, with the departments of medicine and of pediatrics most often participating. In four schools, the program is an activity of the department of medicine, including one in which the department of pediatrics also conducts a program. At seven schools, the program is a responsibility of a department of preventive or of community medicine or health care science. (27:24)

The following table (Table 12) from the AAMC Curriculum Directory 1974-75 (7) displays a number of curriculum characteristics, many of which are variations from traditional medical school characteristics. It is based on responses to a questionnaire to 114 medical schools in the continental US plus 21 AAMC accredited schools in Canada, Puerto Rico, and elsewhere.

TABLE 12

PERCENTAGE OF 135 MEDICAL SCHOOLS PROVIDING POSITIVE RESPONSES TO SELECTED CURRICULUM CHARACTERISTICS

CURRICULUM CHARACTERISTIC	PERCENT OF POSITIVE RESPONSES
Year of student selection	
Senior in high school	7.4
First year of college	2.2
Second year of college	14.8
Third year of college	80.0
Fourth year of college	86.7
Schools accepting transfers	
Criteria for accepting transfers	86.7
Previous academic experience	78.5
Part I of National Boards	54.1
Other criteria unique to school	30.4
Program duration	
Regular 4 year program with no 3 year	62.2
Regular program in 3 years with an option for 4 year program	12.6
Option to a 3 or 4 year program	17.8
Accelerated program	
Schools with programs beginning on an undergraduate campus leading to the M.D. degree in 6 years or less after high school graduation	21.5
Schools allowing students to enter with advanced academic standing	65.9
Courses may be omitted with permission	
Criteria for course omission	77.0
AAMC Biochemistry Special Achievement Test	19.3
Institutional examination	47.4
Previous academic experience	61.5
Faculty advisement available	98.5

(continued)

TABLE 12 (cont.)

PERCENTAGE OF 135 MEDICAL SCHOOLS...

CURRICULUM CHARACTERISTIC	PERCENT OF POSITIVE RESPONSES
Student retention activities	
Special advisory programs for educationally disadvantaged students	57.8
Study skill courses for any student with academic difficulty	45.9
Tutoring by faculty and/or students	95.6
Schools with combined degree programs	
M.D. - Ph.D.	67.4
M.D. - J.D.	3.7
Electives	
Permitted in other colleges of university	85.2
Permited from universities or other medical schools	94.1
In the non-university environment	
Unaffiliated community hospital	80.0
Federal or state agency	83.0
City or county agency	76.3
Doctor's private office	84.4
International and/or family and community practice settings	29.6
Categorical areas related to medicine	
Medical Hypnosis	15.6
Non-western Medicine	17.8
Population Dynamics	24.4
Medical Jurisprudence	45.9
Ethical Problems in Medicine	57.8
Nutrition	63.7
Alcoholism	67.4
Health Care Delivery	69.6
Human Sexuality	71.1
Drug Abuse	74.8
Instructional innovations	
Self-instruction	74.8
Clinical application of computers	44.4
Computer assisted instruction	56.6
Problem oriented record used in required clerkships	40.0
Required clerkship and clinical electives	33.3
Independent study	57.8
Ambulatory primary care program	77.8
Formal specialty tracks available	25.9
GRADING/TESTING	
Type of Grading	
Pass-fail type of grading	79.6
Letter/number grades	28.9

TABLE 12 (cont.)

PERCENTAGE OF 135 MEDICAL SCHOOLS...

GRADING/TESTING	PERCENT OF POSITIVE RESPONSES
Use of National Board Exam Part I	
Students must take exam as candidate	26.7
Students must take exam to record a score	23.0
Students must record a passing score for promotion	22.2
Taking exam is optional	38.5
Schools which rank students by class	24.4
CURRICULUM ADMINISTRATION	
Curriculum evaluation	
By written examinations	88.9
Examination developed by school	35.6
Examination developed by department	42.2
Examination developed extramurally	6.7
By internship or residency performance	44.4
By faculty opinion	87.4
By student opinion	88.1
Other method (Curriculum Committee)	16.3
Statement of behavioral/learning objectives are required	44.4
State of behavioral/learning objectives are available	44.4
Objectives where available are	
Prepared by school	14.9
Prepared by department	37.0
Prepared by curricular unit	39.3
Schools with established unit responsible for research and development of the education process	63.0
Schools with established unit responsible for instructional materials development and/or management of media	74.8

The pervasiveness of these characteristics indicates a variety of possibilities among medical schools in terms of student options and program flexibilities.

FINANCING MEDICAL EDUCATION

Financing medical education is more complex than in the other MODVOPPP professions. Involvement with universities, hospitals, research centers, and public and private research programs means that medical training is both well-financed, albeit intricately, and highly vulnerable to shifts in public and private research agendas.

Total medical school financial support in 1971-72 amounted to nearly two billion dollars ($1,942,780,000). Less than half of this was operating support and 44.8% of the total was derived from various federal sources. (25:28)

Medical education is expensive for the students and they are expected to be willing to incur debt. Because of the large number of public medical schools, however, average annual expenses are less than for students in such professions as osteopathic medicine and podiatry. Medical students also do not have the large equipment expenses as students in a field like dentistry. (See Table 13.)

TABLE 13

AVERAGE ANNUAL EXPENSES OF HEALTH PROFESSIONS STUDENTS
SCHOOL YEAR: 1970-71

SELECTED EXPENSE ITEMS	MEDICINE	OSTEO. MED.	DENTISTRY	VET. MED.	OPTOMETRY	PODIATRY	PHARMACY	PUB. HLTH. (Not Avail.)
1) School Expenses (tuition, fees, books, etc.)	$1552	$1770	$1615	$1362	$1458	$1788	$1131	
2) Board & Lodging (maintenance of living quarters)	2219	2420	2306	1863	2038	2575	1531	
3) All Other (taxes, insurance)	1758	2520	2310	1248	1755	1938	1077	
4) TOTAL	$5529	$6710	$6231	$4473	$5251	$6301	$3739	

SOURCE: How Health Professions Students Finance Their Education, Department of Health, Education, and Welfare Publication Number (Health Resources Administration) 74-13, October, 1973, page 10.

While medical student expenses are less than those in some other MODVOPPP professions, medical students are more successful in obtaining loans over $2,000 than all others. (See Table 14.)

TABLE 14

DISTRIBUTION OF LOANS IN MODVOPPP HEALTH PROFESSIONS SCHOOLS BY AMOUNT OF LOAN AND PROPORTION OF STUDENTS REPORTING LOANS: 1971-72 (By Percent)

PERCENT LOANS	TOTAL	MEDICINE	OSTEOPATHIC MEDICINE	DENTISTRY	VETERINARY MEDICINE	OPTOMETRY	PODIATRY	PHARMACY	PUBLIC HEALTH
Under $1000	51.6%	44.3%	62.1%	46.2%	47.5%	46.4%	68.9%	82.3%	N/A
$1001 - $2000	38.1	42.6	32.1	41.9	43.0	45.7	29.9	15.4	N/A
$2000 +	10.3	13.1	5.8	11.9	9.5	7.9	1.2	2.3	N/A
Rank Over 1000		*1*	*5*	*2*	*4*	*3*	*6*	*7*	*N/A*

SOURCE: How Health Professions Students Finance Their Education, Department of Health, Education, and Welfare Publication Number (Health Resources Administration) 74-13, October, 1973.

Similarly, medical students were far more successful in obtaining scholarships over $1,000 than all others. Scholarships in these amounts accounted for 25.5% of all medical scholarships compared to 17.1% in these amounts to dentistry, the next highest. (See Table 15 on the following page.)

As a consequence of the moderate expenses of medical school and the various sources of students' income, the gap between expenses and income is less for medicine than all others. Single medical students meet 59% of their own expenses, while married medical students meet 69% of their expenses. Both of these figures considerable exceed the financial capabilities of students in other MODVOPPP professions. (See Table 16 on the following page.)

TABLE 15

DISTRIBUTION OF SCHOLARSHIPS IN MODVOPPP HEALTH PROFESSIONS SCHOOLS BY SIZE OF SCHOLARSHIP: 1971-72 (By Percent)

PERCENT SCHOLARSHIPS	TOTAL	MEDICINE	OSTEOPATHIC MEDICINE	DENTISTRY	VETERINARY MEDICINE	OPTOMETRY	PODIATRY	PHARMACY	PUBLIC HEALTH
Under $1000	81.2%	74.5	95.5	82.9	83.4	87.5	87.4	87.9	N/A
$1001 - $2000	15.1%	18.8	4.5	14.8	15.9	11.6	12.0	11.3	N/A
$2000 +	3.7%	6.7	--	2.3	0.7	0.9	0.6	0.8	N/A
Rank Under 1000		*7*	*1*	*6*	*5*	*3*	*4*	*2*	*N/A*
Proportion of Students Receiving from all Sources		59%	60	55	54	52	56	60	N/A

SOURCE: How Health Professions Students Finance Their Education, Department of Health, Education & Welfare publication number (Health Resources Administration) 74-13, October, 1973.

TABLE 16

RELATIONSHIP BETWEEN INCOME AND EXPENSES FOR MODVOPPP HEALTH PROFESSIONS STUDENTS SCHOOL YEAR: 1970-71

(By Percent)

EXPENSES EXCEED INCOME	MEDICINE	OSTEOPATHIC MEDICINE	DENTISTRY	VETERINARY MEDICINE	OPTOMETRY	PODIATRY	PHARMACY	PUBLIC HEALTH
1) Total, all students	37%	50	44	41	49	50	44	N/A
2) Total, single students	41%	53	50	46	54	57	44	N/A
3) Total, married students (no children)	31%	44	36	30	39	43	35	N/A

SOURCE: How Health Professions Students Finance Their Education, Department of Health, Education and Welfare Publication Number (Health Resources Administration), 74-13, October, 1973.

Medical students come disproportionately from families with high incomes, and their families are better off than are those of other MODVOPPP students. While quite similar proportions of MODVOPPP students' families have middle-range incomes (the range is only 40 to 46% of those earning between $10,000 and $20,000), there are wide differences among them in the high income and low income levels. While only 27% of medical students come from families with incomes of less than $10,000, 49% of pharmacy students do and 36-37% of osteopathic medical, optometry, and podiatry students do. And while only 10% of pharmacy students come from families earning more than $20,000, 33% of medical students do. Between 17% and 22% of all other MODVOPPP profession students come from these high income families, with the exception of dentistry with 25%. (See Table 17.)

TABLE 17

TOTAL ENROLLMENTS IN SELECTED MODVOPPP HEALTH PROFESSIONS SCHOOLS IN THE UNITED STATES BY FAMILY INCOME: ACADEMIC YEAR 1970-71 (By Percent)

FAMILY INCOME (by Percent)	MEDICINE	OSTEOPATHIC MEDICINE	DENTISTRY	VETERINARY MEDICINE	OPTOMETRY	PODIATRY	PHARMACY	PUBLIC HEALTH
Less than $5,000	6.8	12.4	7.3	11.7	9.8	11.3	16.9	N/A
$5,000 - $9,999	20.1	25.2	22.0	27.9	26.0	24.8	31.6	N/A
$10,000 - $14,999	24.9	27.9	29.8	29.6	28.8	27.7	28.7	N/A
$15,000 - $19,999	14.8	13.5	15.7	13.7	13.7	15.3	12.7	N/A
$20,000 - $24,999	11.5	7.2	11.0	7.7	9.6	10.1	5.3	N/A
$25,000 or more	21.8	13.9	14.3	9.5	12.2	10.8	4.7	N/A

SOURCE: Minorities and Women in the Health Fields, Bureau of Health Resources Development, Health Resources Administration, Public Health Services, Department of Health, Education and Welfare, 1974.

In 1971, 63% of the single students and 42% of the married students reported that some portion of their income came from parents or other relatives (28:27). The percentage of familial support rose directly with family income. Thus, in the $10,000-$14,999 range, family support accounted for 14% of students' income while in the $25,000 and more range it accounted for 39% of students' income. (See Table 18.)

TABLE 18

SOURCE OF INCOME OF MEDICAL STUDENTS BY FAMILY INCOME: 1971

Source of income	Total	Family income					
		Less than $5,000	$5,000–$9,999	$10,000–$14,999	$15,000–$19,999	$20,000–$24,999	$25,000–or more
Total income	100%	100%	100%	100%	100%	100%	100%
Total non-refundable funds	81	74	74	78	78	86	93
Own earnings and savings	18	19	16	18	21	17	20
Spouse's earnings	30	25	29	34	28	31	29
Gifts/loans from family	20	4	9	14	18	29	39
Federal Health Professions Scholarship	3	8	7	3	2	2	*
NIH-supported research grants, etc.	1	1	1	1	1	1	1
Other Federal research grants, etc.	1	1	1	*	1	*	1
State government scholarship	1	2	1	1	1	*	*
Other non-refundable funds	7	14	10	7	6	6	3
Total refundable funds	19	26	26	22	22	14	7
Federal Health Professions loan	5	9	8	6	7	2	1
Federal Office of Education guaranteed loan	3	3	3	4	3	1	*
Own professional school loan	2	4	3	2	2	2	1
State government loan	3	4	4	3	3	2	1
Private bank loan	2	2	2	3	2	2	1
Other loans	4	4	6	4	5	5	3

* Less than 0.5 percent.

SOURCE: *How Medical Students Finance Their Education, Department of Health, Education and Welfare Publication # (Health Resources Administration) 75-13, June, 1974.*

Marital status accounts for the largest variation in the sources from which medical students' income was derived in 1971. Among single students, parents' contributions were the principal source of income accounting for 36 percent of the income reported. Married students with and without children all reported that only 11 percent of their income came from parents or other relatives. However spouses' contributions accounted for 48% of married medical students' income (28:27) although the proportion decreased from 55% for married students with no children to only 19% for those with two or more children (see Table 19).

The proportion of all medical students who reported income from their own earnings and savings was 67% in 1971, and there was considerable variation in the proportion of students with income from this source among the various classes. The proportion of single freshmen reporting income from this source was 76%. (28:30-31)

TABLE 19

SOURCE OF INCOME OF MEDICAL STUDENTS BY MARITAL STATUS

Source of income	All students [1]	Marital status: Single	Married no children	Married one child	Married two or more children
Total income	100%	100%	100%	100%	100%
Total non-refundable funds	81	75	88	78	75
Own earnings and savings	18	24	13	21	24
Spouse's earnings	30	•	55	30	19
Gifts/loans from family	20	36	11	11	11
Federal Health Professions Scholarship	3	4	1	4	6
NIH-supported research grants, etc.	1	1	1	1	•
Other Federal research grants, etc.	1	1	1	1	•
State government scholarship	1	1	1	1	1
Other non-refundable funds	7	8	5	9	14
Total refundable funds	19	25	12	22	25
Federal Health Professions loan	5	6	3	9	7
Federal Office of Education guaranteed loan	2	3	2	2	3
Own professional school loan	2	4	1	2	3
State government loan	3	4	2	2	3
Private bank loan	2	2	2	4	3
Other loans	5	6	2	3	6

[1] Includes students who were widowed, divorced, or separated.
• Less than 0.5 percent.

SOURCE: *How Medical Students Finance Their Education, Department of Health, Education and Welfare Publication # (Health Resources Administration) 75-13, June, 1974.*

The preceding two tables indicate that medical students also obtain income through federally-sponsored research and training. In addition to all of these non-refundable sources of income, students also utilize refundable sources including a variety of loans. In 1971, 54% of all medical students borrowed money to help finance their education (28:31). These loans tended to occur more often in public than in private schools where personal income from other sources tended to be more common. Private school loan, scholarship, and research amounts tended to be higher than those in public schools. (See Tables 20 and 21.)

TABLE 20

SOURCE OF INCOME OF MEDICAL STUDENTS BY CONTROL OF MEDICAL SCHOOL

Source of income	All schools	Public schools	Private schools
Total income [1]	100%	100%	100%
Total non-refundable funds	81	80	83
Own earnings and savings	18	20	18
Spouse's contributions	30	33	25
Gifts/loans from family	20	15	27
Federal Health Professions Scholarship	3	3	3
NIH-supported research	1	1	1
Other Federal research training	1	1	*
State government scholarship	1	1	1
Other non-refundable funds	7	6	8
Total refundable funds	19	20	17
Federal Health Professions loan	5	6	4
Federal Office of Education guaranteed loan	3	3	2
Own professional school loan	2	1	4
State government loan	3	3	2
Private bank loan	2	2	2
Other loans	4	5	4

[1] Details may not add to totals due to rounding.
* Less than 0.5 percent.

SOURCE: *How Medical Students Finance Their Education, Department of Health, Education and Welfare Publication # (Health Resources Administration) 75-13, June, 1974*

TABLE 21

AVERAGE AMOUNT OF INCOME REPORTED BY SINGLE AND MARRIED MEDICAL STUDENTS BY SOURCE AND BY CONTROL OF MEDICAL SCHOOL

Source of income	All medical students			Single medical students			Married medical students		
	All schools	Public schools	Private schools	All schools	Public schools	Private schools	All schools	Public schools	Private schools
	– Average amount of income reported –								
Own earnings and savings	$1,578	$1,551	$1,621	$1,419	$1,263	$1,620	$1,773	$1,847	$1,623
Spouse's contribution	4,507	4,406	4,701	– –	– –	– –	4,540	4,442	4,728
Gifts/loans from family	2,143	1,653	2,773	2,249	1,749	2,889	1,962	1,491	2,575
Federal health professions scholarship	964	907	1,067	945	880	1,061	988	939	1,075
NIH-supported research	844	789	927	891	779	1,035	799	798	803
Other Federal research grants, etc.	846	868	789	890	1,139	486	819	736	1,106
State government scholarship	581	595	563	563	592	525	602	598	607
Other non-refundable funds	1,752	1,790	1,714	1,483	1,402	1,546	2,033	2,109	1,938
Federal health professions loan	1,084	1,068	1,118	982	953	1,039	1,201	1,195	1,213
Federal Office of Education guaranteed loan	1,414	1,408	1,432	1,382	1,370	1,415	1,448	1,445	1,456
National defense student loan	1,155	1,136	1,203	1,184	1,169	1,216	1,130	1,111	1,187
Own professional school loan	1,269	1,020	1,443	1,234	1,055	1,363	1,322	966	1,562
State government loan	1,404	1,382	1,447	1,360	1,326	1,413	1,452	1,433	1,499
Private bank loan	1,407	1,351	1,533	1,422	1,360	1,537	1,397	1,345	1,529
Other loans	1,624	1,528	1,790	1,584	1,540	1,650	1,675	1,515	2,011

SOURCE: How Medical Students Finance Their Education, Department of Health, Education and Welfare Publication # (Health Resources Administration) 75-13, June, 1974.

As a consequence of familial support, marital support, scholarships, and moderate expenses, medical students occupy the midpoint among MODVOPPP professions in percentage of students reporting debt and are only third highest in the size of average senior year and overall indebtedness, well behind osteopathy and dentistry. (See Table 22.)

In sum, the financing of medical education is less a problem than it is in most of the other MODVOPPP professions, despite the popular image and public comment on the issue suggesting otherwise. This was illustrated in our interviews with medical and other MODVOPPP students. Medical students spoke much less of the financial burdens of training than did students in other MODVOPPP professions and appeared less anxious about the debts they do incur--possibly because they also expect a high and ready income upon completion of training and entry into practice.

TABLE 22

PROPORTION OF STUDENTS WITH DEBTS IN HEALTH PROFESSIONS SCHOOLS AND AVERAGE AMOUNT OF INDEBTEDNESS BY SCHOOL CLASS: JUNE 1971

SCHOOL CLASS	MEDICINE	OSTEOPATHIC MEDICINE	DENTISTRY	VETERINARY MEDICINE	OPTOMETRY	PODIATRY	PHARMACY	PUBLIC HEALTH
All classes:								
% reporting debts	65	79	74	66	65	70	56	
Average debt	$4,289	$5,966	$4,888	$3,534	$3,559	$4,115	$2,477	N/A
Freshman:								
% reporting debts	61	72	66	58	57	60	52	
Average debt	$2,975	$3,457	$3,162	$2,670	$2,560	$3,119	$1,974	N/A
Sophomore:								
% reporting debts	62	75	73	70	67	70	58	
Average debt	$3,545	$4,930	$4,149	$3,180	$3,032	$3,691	$2,315	N/A
Junior:								
% reporting debts	68	84	78	68	68	76	57	
Average debt	$5,194	$6,069	$5,322	$3,851	$3,898	$4,368	$2,650	N/A
Senior:								
% reporting debts	72	84	81	72	73	80	58	
Average debt	$5,504	$9,796	$6,900	$4,552	$5,047	$5,318	$3,261	N/A

SOURCE: *How Health Professions Students Finance Their Education, Department of Health, Education and Welfare Publication Number (Health Resources Administration) 74-13, October, 1973.*

IV. THE TRAINING PROCESS

In this chapter we discuss the nature of the training process and its impact on student experience. Though the process is a continuum, rather than a set of discrete phases, we have organized our discussion around the major components of training: the decision to apply, admissions, preclinical curriculum, clinical training, the choice of specialty and postgraduate training in internships and residencies.

The decision to apply to medical school is a long-term process, including years of prior preparation. Students must have acquired the necessary prerequisite courses and gained access to an information network well in advance of application. We found that for women this phase of preparation for application was often especially problematic.

The admissions process appears to involve similar procedures among all medical schools. A standardized achievement exam, a centralized application service, and a fairly orthodox sequence of events--submission of test scores and undergraduate record, initial screening on that basis, submission of further credentials, selection for interview, and final selection--lends an impression of uniform criteria and methods of evaluation. The admissions process, in fact, varies widely in priorities and criteria among medical schools.

The traditional medical school curriculum follows this pattern: students take two years of course work in basic and medical science, are first introduced to patients at the end of the second year in a physical diagnosis course, and then move into two years of clinical work. In clinical training, students learn partially by reading, listening, and taking exams, but primarily by being shown how to do things and then doing them. Students move through the clinical specialties in medicine in small groups of three to twelve for "rotations" of six to eight weeks.

Pressure on the schools to produce more physicians and also to better integrate basic science knowledge with clinical problem solving have led to a wide range of preclinical curriculum innovations--three year curricula, extended and

flexible curricula, integration of basic science and clinical learning, increased elective options, organization of material around body systems or around problem solving, and so on. Because clinical work is done in hospitals--and in some cases hospitals over which the school has little control--it is primarily structured by the needs of the hospital organization and thus has so far been relatively invulnerable to educational innovations.

Clinical rotations are important in terms of training and also through their function of exposing students to medical specialties and thus leading them to a specialty choice. Specialty choice is nearly as complex and as momentous as is the initial decision to apply to medical school. Again, students must evaluate not only their own preferences but their abilities as they are perceived by relevant specialists and their chances of doing well in a given field. Specialty choice is also a life style choice, for the nature and conditions of work vary widely from specialty to specialty.

Postgraduate training is currently in a state of redefinition. Students have traditionally taken a one-year, general internship rotating through major areas of medical practice. After the internship, graduates either went into practice or went on to specialty training in a residency program. However training beyond the internship has become increasingly the norm, along with the trend toward earlier specialization. Rotating internships have decreased while rotating internships with major emphasis and straight specialty internships have increased. The internship is now viewed as the first year of a residency training period.

Admission to postgraduate training programs is a formal and complex process as is medical school admission. The competition is keen for prized positions, but there are a sufficient number of residencies for everyone. Formal credentials such as medical school records are important in selection but are overshadowed by personal references, the interview, and other subjective data. A national matching system provides the basis for objectivity and uniformity in the selection procedure, but the informal professional, collegial network and informal criteria still play an important role in the selection process.

Postgraduate training is arduous, requiring a commitment of virtually all of a student's energy and time. The life-cycle period during which this commitment is required coincides for most students with the period of bearing and raising children. This coincidence creates problems for men and women both, but given current social roles the impact falls most heavily on women. Some experimentation with time-flexible training programs has begun on a limited scale.

APPLICATION AND RECRUITMENT

The remarkable increase in the number of women in medical school applicant pools during the past several years reflects, we believe, a combination of features about medicine which have appeal for and are attractive to women, influences on women to consider medicine as a profession and career, and intended and sometimes unintended but successful recruitment efforts by the schools.

Attractions to Medicine

In 1974 a questionnaire was sent by Dr. Laura Morrow to the deans of medical schools in the United States asking which factors they felt influenced or attracted women to a career in medicine. (60) Whereas many of the deans' responses were influences, rather than attractions, the attractions they did mention included: an eagerness to help people; curiosity and interest in learning; contact with illness in self or a loved one fostering a wish to free others of suffering; increasing demand for personal women physicians by members of women's organizations. Their responses closely resemble attractions mentioned by women students in this study.

Most women mentioned a general desire to help people as the major attraction of medicine.

> *I just wanted to be able to do something, you know, really have a way to help people. Second year student, female)*

> *I've wanted to be a physician all my life. When I was little I had a playmate next door who was real sick. I used to look across at his window. It made me mad that I couldn't do anything about it. (First year student, female)*

I thought I'd be able to do a lot of good for people if I became a doctor, be able to help people out in a lot of ways, not just medical. Initially I saw a doctor having power that I could use for good purposes. (Second year student, female)

It's just something I always wanted to do. Nobody knew about it. I never told anybody I wanted to be a doctor. I'd had a lot of health type and hospital jobs--I did volunteer work at a hospital at a very young age--and I saw people sick and suffering and I always comforted myself that someday I'd be able to help. But no one figured out that I wanted to be a doctor. (Second year student, female)

Related to this general desire to relieve suffering was an attraction to medicine as a means of meeting specific health needs of women. At every school we visited there was a small, articulate group of women who had come to medicine through their concern for women's health issues. Women sometimes were encouraged to enter medical school out of convictions about changes they believed are needed in the profession and with the knowledge that they could accomplish little in the health field without professional credentials. Through work in women's health groups, some women also came to a conviction that more and better health care is needed for women, and they pursued medical training as a way of contributing to needed women's services.

I always avoided medicine...my father was a doctor and our house was always full of them, but they seemed so elitist and wrapped up in just the narrow world of being a doctor. After college, though, I began to get involved in women's health issues and it became more and more clear to me that women <u>need</u> doctors who are tuned into what it means to be a woman in our society, we <u>need</u> doctors who make it their business to really research women's health problems and who will be there to discuss and answer questions. It's not a matter of luxury or choice--it's a matter of getting necessary health care! I want to do that...I want that kind of skill. I used to feel so powerless about all the things that are wrong with our world...the Vietnam War, racism, sexism...and I see medicine as a concrete way to give to people, to <u>women</u>, the information and medical help we need to better control our own bodies. (First year student, female)

We need women doctors. Most women that go to doctors feel intimidated and rushed through the mill and here's this male GYN expert telling you not to worry about taking the pill and this little exam won't hurt at all--well, how do they know whether it hurts? I think women prefer having another woman to talk to about women's health things, so that's why I want to be a doctor. (Second year student, female)

The independence and power of the role of physician was an added attraction for some women although most often voiced as secondary to wanting to help people.

I always saw doctors as being aggressive decision makers--that's how everyone views doctors. That doesn't necessarily mean being an aggressive person. But I want the power to make decisions for myself. I like having that authority. (Group interview, first and second year, female)

I always thought that being a doctor is a kind of tricky position. I don't want to be in a position where I regard myself as better than other people and other people view me as better than them. I want to work with people, be able to take advice, though I do want to be able to make decisions. (Group interview, first and second year, female)

I worked to make money summers and during college and always comforted myself with the thought that when I became a doctor, no one could boss me around. (Second year student, female)

This autonomy of a professional and the desire to work independently is of prime importance to many women in medicine. The professional independence sought in medicine is therefore different from the financial independence mentioned as an attraction by women in other MODVOPPP professions. In a study conducted by the AAMC, students were offered twenty reasons for choosing medicine as a career. Women ranked "desire for independence" as fourth in importance. (50:1097-1269)

A few women were attracted by the image of humanitarianism and challenging involvement as portrayed in the media.

I never knew personally anyone that was a doctor--but I saw shows on TV and just knew that's what I wanted to be. It seemed challenging, like you really had to think and dig things out...and it helped people. (Third year student, female)

The AAMC/Johnson and Hutchins study (50) found these influences to be true of their sample also. Women medical students ranked the importance of "books or articles about medicine" as far more important for their attraction to the field than did men students.

Responses from our male respondents gave a different picture of the attractions of medicine. Most males did not discuss what it was about medicine that attracted them. They simply stated "I always knew I'd be a doctor" or "Doesn't everyone want to be a doctor if you can?" Parental desire to have a son become a doctor is a well known stereotype illustrating the general societal attitude that medicine is a good, respectable, prestigious profession for a male. All of the males we interviewed seemed aware of the stereotype that they might be pushed into medicine by their parents and tried to discount its validity for them:

> *My parents are happy I'm going to be a doctor, but it was my decision, really, they didn't push me at all. I just wanted to do it for myself. (Second year student, male)*

Those men that did discuss why they wanted to be doctors most often mentioned financial security, a comfortable lifestyle, and the status of the profession as chief attractions:

> *When I was a medical student, some of my fellow students were quite frank about the fact that the money in their future helped them get over the rough spots. One guy said when he was feeling low he used to go and run around the parking lot at the hospital and look at all the nice cars that doctors had. And that really gave him a boost, an emotional boost, so he could go back to studying again. (Faculty, male)*

> *I'm talking about being able to have the home, the kind of car, the kind of clothes, enough to eat, enough to take a little vacation without having to sell everything you've got for the next five years just to do anything. I'm talking about to be able to be comfortable like I see on TV, Ozzie and Harriet and people like that. You know, be comfortable. (Third year student, male)*

Men also mention, as do women, the desire to be able to help people.

Once the attraction to the profession is established, the role of supportive or discouraging influences and experiences become crucial in affecting whether a male or female actually applies to medical school. Lopate cites a study illustrating how much more drastic is the drop-out rate for girls attracted to the profession than for boys:

> Stability rates for girls and boys who thought they wanted to become doctors during the first and middle years of high school reflect the differential in support that they are given during this crucial period. At the Macy Conference on Women for Medicine Dr. Helen Astin reported high school data for 'Project Talent.' In this study, 29 per cent of the boys who had decided to become doctors in the ninth grade still planned on it one year after graduation from high school, while only 9 per cent of the girls had retained their career plans. The two years between the eleventh grade and the first year after graduation show a doubly high stability rate for both groups: 51 per cent of the boys who thought they wanted to enter the profession one year after graduating, while 18 per cent of the girls who wanted to be physicians in the eleventh grade continued to plan to go into medicine. The stability rates for students of both sexes going into medicine, however, are among the highest of any field--the only other professions inspiring such great determination being clergy and the arts. All three of these occupations assume the character of a calling. (52:28)

The Decision to Apply: The Influence of Personal, Family, and Social Experiences

The paths men and women take in coming to the decision to apply to medical school are many and diverse. No set of pathways is distinctive to men or women, but one general difference does seem to emerge: men's routes to professional choice are less complex and more direct than are women's. This seems to be due to one quite clear and nearly universal difference between the decision-making patterns of men and women: because social expectations of men are unambiguous in terms of their adult roles as breadwinners and full-time workers, men do not make the decision of whether or not to construct a career but assume it and choose among available options. Social expectations of women, on the other hand, are quite ambiguous in this regard, and they must discover that they can be

professionals and decide whether or not they will define a large part of their adult identity in terms of their construction of a career. In speaking of their decision to apply to medical schools, women almost always spoke also of the realization that they could be, or the decision that they would be professionals. By contrast male students more often spoke of their decision in terms of a choice between medicine and other professions.

We will focus in the following sections on the experiences of women in reaching the decision to apply to medical school. It must be assumed that many more women consider applying to medical school than actually do, and our study did not reach nor include them among its respondents. It must also be kept in mind that our study did not include women who had decided to apply to medical school but were rejected. Thus our findings only apply to women who had been accepted and had enrolled in school rather than to all women who had considered or made the decision to apply. The variety of influences in these decisions is wide and overlapping. We have found, however, that certain general patterns emerge.

The Role of Professional Family Background

A large number of women with whom we spoke had parents in the medical field, in other MODVOPPP professions, or in other professional jobs. Though this was also often the case among other MODVOPPP students, it seems to occur most frequently among medical students. Though we do not have national, cross-profession data available by sex of student, data on both men and women students are indicative. 1970 data show that a higher proportion of medical students had fathers in the same profession than in any of the other MODVOPPP professions--15%, as opposed to 11% in osteopathic medicine, 7% in dentistry, podiatry, and pharmacy, and 4% in veterinary medicine. Combining fathers who were in the same profession, and fathers who were in other professional, technical, and managerial work, 69% of medical students' fathers fell in these categories as compared to roughly 60% of fathers of students in dentistry, osteopathic medicine, optometry, and podiatry. Less than 50% of fathers of students in veterinary medicine and pharmacy fell in these professional categories. (See Table 23.)

TABLE 23

DISTRIBUTION OF MODVOPPP HEALTH PROFESSIONS STUDENTS BY FATHERS' OCCUPATION
UNITED STATES: 1970 (By Percent)

Father's Occupation (by percent)	MEDICINE	OSTEOPATHIC MEDICINE	DENTISTRY	VETERINARY MEDICINE	OPTOMETRY	PODIATRY	PHARMACY	PUBLIC HEALTH (not available)	*ALL U.S. EMPLOYED MALES*
1) Profession of Student	15	11	7	4	9	7	7		--
2) Other MODVOPPP Profession Health Worker	6	5	7	4	7	9	3		--
3) Other Professional & Technical Worker & Owner, Manager, Proprietor	48	42	47	39	42	43	31		*28*
4) Clerical & Sales	12	13	13	11	14	15	15		*13*
5) Craftsman, Skilled Worker	10	16	16	15	16	16	24		*21*
6) Unskilled Worker	5	8	6	6	7	7	11		*26*
7) Farmer, Farm Worker	3	4	3	21	4	2	8		*5*
8) Other Occupations	1	1	1	--	1	1	1		*6*

SOURCE: How Health Professions Students Finance Their Education, Department of Health, Education and Welfare publication Number (Health Resource Administration) 74-13. October, 1973. p. 6.

Also, more female medical students had parent-physicians than did the males in the AAMC/Johnson Hutchins sample.

Data on educational levels of the fathers of health professions students further verify the finding that medical students often come from families which have already attained professional status. Thus 35% of the fathers of medical students have graduate or professional degrees as compared to 5% of students nationwide. Medical students more often have fathers with graduate or professional degrees than do students in the other MODVOPPP professions--35% as compared to 20-25% in osteopathic medicine, dentistry, optometry, and podiatry. But the difference in college graduate fathers combined with graduate or professional fathers is small: 39% for medical students, 37% for osteopathic medical and dental students, and close to 30% for students in veterinary medicine, optometry, and podiatry. (See Table 24.)

TABLE 24

DISTRIBUTION OF MODVOPPP HEALTH PROFESSIONS STUDENTS BY FATHERS' EDUCATIONAL LEVEL: 1970 (By Percent)

Approximate % Educational Level	U.S.	MEDICINE	OSTEOPATHIC MEDICINE	DENTISTRY	VETERINARY MEDICINE	OPTOMETRY	PODIATRY	PHARMACY	PUBLIC HEALTH (not avalable)
1) Graduate or Professional	5	35	25	22	17	22	21	11	
2) College Graduate	7	4	12	15	14	10	7	8	
3) Some College	10	14	12	16	15	15	17	15	
4) High School Degree or Less	78	37	50	47	55	52	55	65	

SOURCE: *How Health Professions Students Finance Their Education, Department of Health, Education and Welfare publication Number 74-13, October, 1973. Educational level is approximate because numbers were estimated from bar graphs in the source.*

Significantly, 50% of all medical students came from a family in which the mother had some college education. Mothers of medical students completed college more than four times the proportion of all women 40 years old or over who had completed college. The proportion of medical students whose mothers had graduate or professional education beyond college in 1971 was 14% or seven times that of all females 40 years old or over. (See Table 25.)

TABLE 25

DISTRIBUTION OF MEDICAL STUDENTS IN PUBLIC AND PRIVATE SCHOOLS BY EDUCATIONAL LEVEL OF MOTHER IN COMPARISON WITH EDUCATIONAL LEVEL OF FEMALES 40 YEARS OLD AND OVER IN THE UNITED STATES

EDUCATIONAL LEVEL	MEDICAL STUDENTS' MOTHERS			U.S. FEMALES 40 YEARS OLD AND OVER[1]
	ALL SCHOOLS	PUBLIC SCHOOLS	PRIVATE SCHOOLS	
All Levels	100%	100%	100%	100%
Eighth grade or less	4	4	5	35
Some high school	7	7	6	20
Completed high school	28	28	27	29
Specialized technical training	11	11	10	--[2]
Some college	18	18	18	10
Completed college	18	18	19	4
Graduate or professional	14	14	15	2

SOURCES: [1]*United States Department of Commerce, Bureau of the Census, Detailed Characteristics, United States Summary, 1970 Census of Population, PC(1)-D1.*

[2]*Category not reported separately.*

How Medical Students Finance Their Education, Department of Health, Education and Welfare Publication Number 75-13, June 1974, page 9.

On the other hand, 57% of all medical students came from a family in which the mother did not work outside the home. Of the remaining 43% who were employed, 51% were in medical, professional, or entrepreneurial occupations. Fifteen percent of employed mothers of medical students worked as physicians, three times the national average of women working as medical professionals and other health workers (see Table 26). Thus, medical students come disproportionately from professional backgrounds and families where both parents display high educational accomplishments.

TABLE 26

DISTRIBUTION OF MEDICAL STUDENTS IN PUBLIC AND PRIVATE SCHOOLS BY MOTHERS' OCCUPATION IN COMPARISON WITH OCCUPATIONAL DISTRIBUTION OF EMPLOYED FEMALES 40 YEARS OLD AND OVER IN THE UNITED STATES

OCCUPATION	MEDICAL STUDENTS' MOTHERS WHO WORKED			EMPLOYED FEMALES, 40 YEARS OLD AND OVER[1]
	ALL SCHOOLS	PUBLIC SCHOOLS	PRIVATE SCHOOLS	
Total all occupations	100%	100%	100%	100%
Physician	1	1	2	1
Medical and other health worker	14	16	12	4
Other professional and technical	30	31	29	11
Owner, manager, proprietor	6	6	7	5
Clerical	32	32	30	30
Sales	6	5	7	8
Craftsman, skilled worker	2	2	2	2
Unskilled worker	9	7	11	38
Farmer, farm worker	0	0	0	1

SOURCES: [1]*United States Department of Commerce, Social and Economic Statistics Administration, Bureau of the Census, Occupational Characteristics, 1970 Census of Population, PC(2)-7A.*

How Medical Students Finance Their Education, Department of Health, Welfare and Education Publication Number 74-13, June 1974, page 10.

Finally, using family income as an indicator of professional family background, women medical students even more than men are disproportionately from professional and upper income groups.

> While medical students in general come from upper income families (the median family income of medical students in 1963-64 was $9,949, and 14 percent of these students came from 1 percent of all U.S. families, with incomes in excess of $25,000 a year), various studies indicate that the women come from even more financially secure backgrounds than men. (52:32)

Based on our student interviews, it also appears that the influence of professional family background is more important for women than for men. Young upper-middle-class men in this country have normal expectations throughout their education of entering one of the major professions or one of the professionalizing occupations. The basic decision young men must make, or have made for them, is for which options they are best suited. On the other hand, young women of upper-middle-class backgrounds, until very recently, have not been expected to enter the professions. Their options include family and some occupation but lie outside the boundaries of professional life. Having a professional as a parent breaks into women's standardized perceptions of available options. Through their parents and their parents' friends and associates, young women become conscious, even though they often reject the thought, that professional boundaries include women. This element in the life of a young woman is perhaps the single greatest access point into professional life. The basic perception becomes key to what follows. For some, the subsequent route into the profession is as direct as that for most men:

> *I always knew that I could and would probably want to have a profession of some kind. My mother and father were both college professors who always encourged me to be whatever I wanted. One of their friends, a woman, used to talk to me about how great it was for her being a doctor. So that's what I decided to do. (Second year student, female)*

But for many others, the route was not so direct. Many of the women we interviewed whose family background made professional life seem a possibility initially pursued non-professional courses but eventually came around to deciding on a health professions career. These women tended to study social science or humanities in college, or perhaps even entered into other career paths, but

kept their options open through a process of "side-betting." Thus, while majoring in music or psychology, they managed to complete most of the pre-professional science requirements while not seeming to pursue this as a career line. At a later date, when due to a variety of person reasons they decided on a health profession, their side-bet strategy meant they had either completed, or could complete in a reasonably short time, the basic medical school entrance requirements. The personal reasons for career change most often originated in the realization of the limitations of other careers, through a strong desire for "purpose through service," or because of a new realization that medicine was possible for them. This path accounts, in part, for women applicants being somewhat older than their male counterparts since they do not enter medical school directly from undergraduate training.

Lopate discusses the possible role of upward mobility in making the decision to apply to medical schools, but discounts its effect for women:

> While government loans may have encouraged men from lower economic classes to enter medicine, they have done little to change the economic backgrounds of female medical students. Women are generally reluctant to take loans for higher education because it gives them a "negative dowry," which the birth of children and the ensuing curtailed income will make more difficult to pay back. A woman's entrance into the medical profession is rarely a rise in socio-economic status. Most of the women would have been able to marry into their parents' socio-economic group without entering a profession of their own. (52:33)

The Role of High Achievement in the Sciences

A major access route for young women to medicine is through demonstrated talent and experience in the natural sciences. Succeeding in science in high school and college often opens up the professional realm through an academic career of teaching or research. This pathway allows the student a two-track professional option without requiring pre-medical training per se. Should the student decide to pursue medicine, she can. If she is not accepted, she can continue to pursue an academic career without losing any time.

It just kind of happened. I was interested in science in high school. I liked biology and just started the pre-med courses. I took the MCATs and did pretty well so I applied. I wanted medicine, but I had alternatives. (Second year student, female)

Often the choice of a science academic career may lead back into medicine, particularly in the case where the academic work is done in major medical research centers. From that vantage point, it may be perceived that a health profession is an accessible and manageable career and so results in applying to medical school at this later time.

I went into physiology, straight through, got my PhD and taught in a medical school. When I decided I wanted an MD degree so I could actually use my science, I worked it out so I could keep teaching some while going to medical school. (Resident, female)

The Role of an Allied Health Professional Background

Another major access point for women who did not pursue medical training directly after college was through education and work in an allied health profession field. Many women we interviewed reported that working alongside health professionals they quickly discovered that they, too, could do this work. This realization, combined with skills and contacts already acquired, eased their way into medical school. When they entered institutions in which they were already employed, they often were able to capitalize on the influential people they had deliberately or incidentially cultivated. In addition, women who took this track expressed an added confidence from their working knowledge and experience in the health care field.

I was working as a med. tech. and one day a woman working next to me told me she was going to go to med school to become a doctor. I thought 'If she can do it, why can't I?' So I did. (Second year student, female)

The Role of "Fluke" Experiences

Many women with whom we spoke talked about their route to medical school in terms of "fluke," chance," or "accident." A direct experience with the profession or the experience of a friend or relative often led to a serious interest in pursuing medicine. One of the first year women students we interviewed told a typical story:

I'd always done well in science. In fact I entered college with the notion of going into mathematics or perhaps engineering. A cousin of mine, a woman, said to me one day, 'Why don't you think about medicine?' And just that one conversation, the idea was planted in my mind. (First year student, female)

The Role of Female Family Members as Positive and Negative Role Models

In an earlier section we discussed the importance of professional parents in making a career seem po sible for young women. It appears from our interviews that having a mother working outside the home may be another impo tant role model for women. Our data suggest that women students' mothers are more often involved in active work outside the home than are men students' mothers. In one of the schools we visited, for instance, only 10% of the men's mothers were in paid employment, while more than 70% of the women students' mothers were. At another school, half of the men's mothers were employed outside the home and two-thirds of the women's mothers were.

It appears, also, that mothers or sisters who are dissatisfied as housewives often have an important positive influence on a woman's decision to seek medical training. Curiously, they serve as negative role models. Some women spoke of perceiving the unhappiness of their mothers or sisters in their home role and reacting by seeking an outside-the-home career for themselves. And often the mothers or sisters themselves, in the cases where they wish they had pursued a career outside the home, encouraged them to do the things they had not done. One woman student, for instance, described her mother this way:

My mother never worked (outside the home), but always called herself a frustrated doctor. (First year student, female)

And another woman student described herself as fulfilling the hopes of two previous generations:

My grandmother could have gotten a scholarship to Vassar, but her father said college was only for men. She did go to normal school and became a teacher, but she was always bitter. My mother was supposed to be the one to get the degree, but the Depression came along--she's always been a housewife. Both of them really encouraged me--I guess I'm kind of fulfilling their dreams. (Third year student, female)

And another student described a frequent theme:

> *My mother is a housewife, but I guess you'd say she's the driving force in the family. When I'd say, 'I want to be a med tech', my mother would say, 'Why don't you be a doctor?' (First year student, female)*

The Role of Active Encouragement and Discouragement

Another route into professional life for a young woman is discovering that her friends, teachers, role models, and siblings were considering that profession or considered that she was well enough qualified and encouraged her to pursue it seriously. In other cases, parents, friends and siblings may discourage women from pursuing medicine. One woman student, for instance, told the story of a high school science teacher who had encouraged her and thought her bright. When she asked this teacher to write in her high school year book, he wrote:

> *Good luck in everything. But you'll never make a doctor 'cause you're much too cute. (First year student, female)*

Weisman (97) reports that 31% of the women in his study of medical school rejects had been discouraged from applying by undergraduate advisors compared to 19% of the men. The women students we interviewed often spoke of the role of counselors in discouraging their aspirations to medical school:

> *My college counselors were very discouraging. You know, 'Settle down, get married, raise children, don't struggle for a career. It will just be a hassle, you know.' It was only after I'd made the grades and had some really good job experiences--after I had proved that I was really interested, really dedicated. I had to prove myself before they would give me any encouragement. (First year student, female)*

Female as well as male counselors were reported to have discouraged women from applying to medical school. The following is an example:

> *One of the women counselors at college advised me not to try to go to medical school. I was already married then, and she told me that if I went to med school my husband would have to wait too long for children. She said, 'He shouldn't have to, it's not fair to him.' (Third year student, female)*

Parents may be a force in discouraging women from considering medical school. Most often this is in the form of failing to encourage. The following comments are illustrative:

> *My family was very neutral. Well, that's not correct. Of course, they're very proud now, but they were a bit wary at first; they didn't think I was being honest with myself. They thought It was a stage that I was going through and that I would change my mind and go into something else. They never really encouraged me to do it--in any particular direction. (First year student, female)*

Parental discouragement is sometimes more overt and can constitute a tangible block to a woman's intentions to apply to medical school:

> *In college I began taking a lot of biology. That was when my father began to get upset. He couldn't understand why I didn't take something that would prepare me for a job. When I told him that I wanted to go to med school, really wanted to, he told me I was crazy, why would I want to do that, he wouldn't even wish that on one of his sons. My mother wanted me to do whatever made me happy, but keeping peace in the family was the most important thing.*
>
> *It took me six years to get my BA, working part-time and sometimes full-time. I had almost given up; I was tired of working and tired of fighting with my father. (Fourth year student, female)*

The Role of the Professional Preparation Process

For women who did not intend to go to medical school while they were in college and did not follow the side-bet strategy, preparation can be a major stumbling block, for it generally means gaining admission to a college as a special student to gain the necessary course prerequisites. High prestige colleges generally make it difficult for students to enroll with this kind of ad hoc status, but attendance at a lower prestige institution where such arrangements are more routine then damages one's credentials.

When women do a pre-med major while in college, their experience may discourage them from pursuing a medical career at all. We do not know, of course, about those women who were discouraged completely by the pre-med experience, but women often told us that their experience in pre-med caused them to question and sometimes actually delay their medical aspirations. One of the with whom we talked described the situation this way:

> *I know some guys who were just frantic, to the point where it scared me. I was really concerned about them; they really felt their life would be a waste if they didn't get in (to med school). (Second year student, female)*

Another woman's comments are representative:

> *I saw a health career as being very confining. I felt I had to choose between living and having a family, doing normal recreational stuff, enjoying friends and medicine. (First year student, female)*

Thus a significant decision for women is whether to take what seems the likely chance of being "weeded out" in pre-med, based on such rumors as "women cannot make it in medicine", "you can't get into medical school unless you have done volunteer work in a hospital", and so on. One woman recalled:

> *When I was taking pre-med courses and I was getting really good grades, I had my T.A. come up to me and do me a special favor and tell me, 'Hey, you're gonna break your heart. There's no way you're gonna ever get into med school. Just forget it.' (First year student, female)*

Women often take this advice as proferred. One of the women we talked with who had done so talked about how astounded she was when her medical school admissions interviewer commented, "You have a very impressive background." She noted the amazing distance between what pre-meds think happens in medical school admissions and what actually exists. There seems, in fact, to be a greater tolerance for varieties of backgrounds, switched careers, and unusual sequencing of one's education and other aspects than is commonly rumored in colleges and pre-med programs. One woman, for example, was 25 and divorced. She was so convinced that that would handicap her in gaining admission that she applied to 30 schools. She reported that, in fact:

> *My interviews were pretty good. I was concerned that I was older and divorced and that that would be a disadvantage. I think it turned out to be an advantage." (Fourth year student, female)*

The women we spoke with had made the choice to apply, prepared themselves with the necessary prerequisites, persevered through the "pre-med grind" and managed to survive the discouragement of advisors. We assume that many other women self-select out of the process.

Recruitment: The Influence of the Training Institutions

More than any of the other MODVOPPP health professions, medicine is a highly visible, well-known profession. Recruitment for the sake of informing people about the profession is not necessary. By contrast, in the less visible MODVOPPP professions finding out about the profession appears to be more of an obstacle for women than for men, but none of the students we interviewed mentioned this as a problem in medicine.

The training institutions themselves are potentially one of the factors operating to encourage or discourage students to pursue a medical career. The institutions could take actions to overcome the many discouragements women receive from other sources, but medical schools are so overwhelmed with applications that undertaking recruitment efforts seem quite unnecessary to them. Many schools do make vigorous efforts to recruit minority students, and this can often be quite influential in overcoming the hurdles these students face.

One of the women students we interviewed, a Chicana, told of the influence of one school's recruitment. She had faced continual financial and family obstacles to her hopes to enter medical school and was about to give up when she was telephoned long distance by a medical school faculty member. She reports that he said, "Hey, we've heard about you. Why don't we have your application?" That event, combined with the availability of minority scholarships, was enough to turn the tide.

Few medical schools conduct any sort of recruitment efforts directed at women. Women are rarely included in the agendas of affirmative action or minority recruitment offices. We did, however, encounter a very few exemplary efforts. One effective technique seems to be the simple publication of a small brochure with the message that "women are welcome here" for distribution to high schools and colleges. The inclusion of women in the pictures and language of medical school catalogues is also a simple, but helpful measure.

One of the most effective, but least recognized, recruitment techniques is the reputation that the school projects. Though a school's reputation may seem to be something outside its control, it appears that knowledge about the numbers of women accepted by medical schools travels quickly and effectively. It is certainly clear that the numbers of women applying to medical schools varies widely, and we can assume that this has something to do with the reputation which the school projects. Our field data further suggest that when schools accept an unusually high proportion of women applicants, an increase in the female applicant pool follows quickly. In one school, for instance, 22% of the first year class were women in a particular year, while women had been only 12% of the applicant pool. In the following year, applications from women rose by 98%, while applications from men rose by only 15%. Among the schools we studied that had accepted women in equal or only somewhat higher proportions than their representation in the applicant pool, applications from women climbed slowly, by only 2% or 3% per year. *(Source: Confidential field data)*

ADMISSIONS

Admissions Profession-Wide

Admissions involves the very important task of selecting a profession's next member generation. In medicine as in the other MODVOPPP health professions the task is made difficult as a result of several recent trends. Applicants continue to increase in both numbers and qualifications to the point where the total applicant pool has become almost unmanageable in size, and distinctions among qualified applicant are difficult to establish. Rapid recent and projected changes in the role of the physician and in new forms of health care delivery organization have forced questions about the most desirable and appropriate types and mix of practitioners medical schools are producing and should produce. And, given changing answers to questions regarding who the new practitioners should be, it is difficult to select reliable criteria and measures which will identify applicants who have the best chance of becoming those practitioners.

These problems are greater in medicine than in any of the other MODVOPPP health professions since none of the other professions with the possible exception of dentistry are under widespread attack and question from outside of the profession regarding their goals, choices, and selection methods for future practitioners. All have pressures and debate within the profession regarding these issues, but the debate is normally limited to the question of how best to maintain the profession's economic position and social status and identity. In medicine, the debate includes broader issues of what kind of practitioners responsive health care requires. A brief look at some of the data in medicine regarding applicant activity and qualifications over the years illustrates some of these recent trends.

As Table 27 below shows, first year enrollments in medicine have approximately doubled over the last twenty years while the number of applicants for available first year spaces in medical schools has increased by more than 175% representing a current applicant/acceptance ratio of 2.8 to one or approximately a 35% acceptance rate. Only veterinary medicine has a higher ratio at approximately nine to one or an eleven percent acceptance rate, but it has no where

near the same volume or level of activity. During these twenty years competition for available speaces has also increased if measured by both the total number of applications submitted and by the total number of applications per applicant. The number of applications has increased by 575% in this period, and applications per applicant have almost tripled and now stand at 8.1 compared to 3.3 twenty years ago.

TABLE 27

Summary of Application Activity During the Past 21 Years

1st Year Class	Applicants*	Total No. of Applications*	Applications Per Individual*	Accepted Applicants*	Applicants/Acceptance Ratio*	First-Year Enrollment
1953-1954	14,678	48,586	3.3	7,756	1.9	7,449
1954-1955	14,538	47,568	3.3	7,878	1.8	7,576
1955-1956	14,937	54,161	3.6	7,969	1.9	7,686
1956-1957	15,917	59,798	3.8	8,263	1.9	8,014
1957-1958	15,791	60,951	3.9	8,302	1.9	8,030
1958-1959	15,170	59,102	3.9	8,366	1.8	8,128
1959-1960	14,952	57,888	3.9	8,512	1.8	8,173
1960-1961	14,397	54,662	3.8	8,550	1.7	8,298
1961-1962	14,381	53,834	3.7	8,682	1.7	8,483
1962-1963	15,847	59,054	3.7	8,959	1.8	8,642
1963-1964	17,668	70,063	4.0	9,063	1.9	8,772
1964-1965	19,168	84,578	4.4	9,043	2.1	8,856
1965-1966	18,703	87,111	4.7	9,012	2.1	8,759
1966-1967	18,250	87,627	4.8	9,123	2.0	8,964
1967-1968	18,724	93,332	5.0	9,702	1.9	9,479
1968-1969	21,117	112,195	5.3	10,092	2.1	9,863
1969-1970	24,465	134,557	5.5	10,514	2.3	10,401
1970-1971	24,987	148,797	6.0	11,500	2.2	11,348
1971-1972	29,172	210,943	7.2	12,335	2.4	12,361
1972-1973	36,135	267,306	7.4	13,757	2.6	13,726
1973-1974	40,506	328,275	8.1	14,335	2.8	14,185

*From the study of applicants, Association of American Medical Colleges.

SOURCE: "Medical Education in the United States, 1973-74" 74th Annual Report, Journal of the American Medical Association Supplement, p. 17

Recent applicant and admissions data available by sex show men and women approximately equally involved in the competition which such extraordinary application activity indicates. In 1972-73, the last year for which we have data by sex, men submitted slightly more applications per individual at 7.5 than women at 7.1, although Table 28 would suggest this comparability is possibly a recent trend.

TABLE 28

COMPARATIVE ADMISSIONS DATA FOR MEN AND WOMEN APPLICANTS, 1968-69 THROUGH 1972-73

	Men					Women				
First-Year Class	No. of Applicants	No. of Applications	Average No. Applications Per Man	No. Accepted	Percent Accepted	No. of Applicants	No. of Applications	Average No. Applications Per Woman	No. Accepted	Percent Accepted
1968-69	19,021	102,516	5.4	9,116	47.9	2,097	9,679	4.6	976	46.5
1969-70	22,176	122,875	5.5	9,536	43.0	2,289	10,947	4.8	1,011	44.2
1970-71	22,253	134,277	6.0	10,203	45.9	2,734	14,520	5.3	1,297	47.4
1971-72	25,435	186,819	7.3	10,650	41.9	3,737	24,124	6.5	1,685	45.1
1972-73	30,655	228,585	7.5	11,398	37.2	5,480	38,721	7.1	2,359	43.0

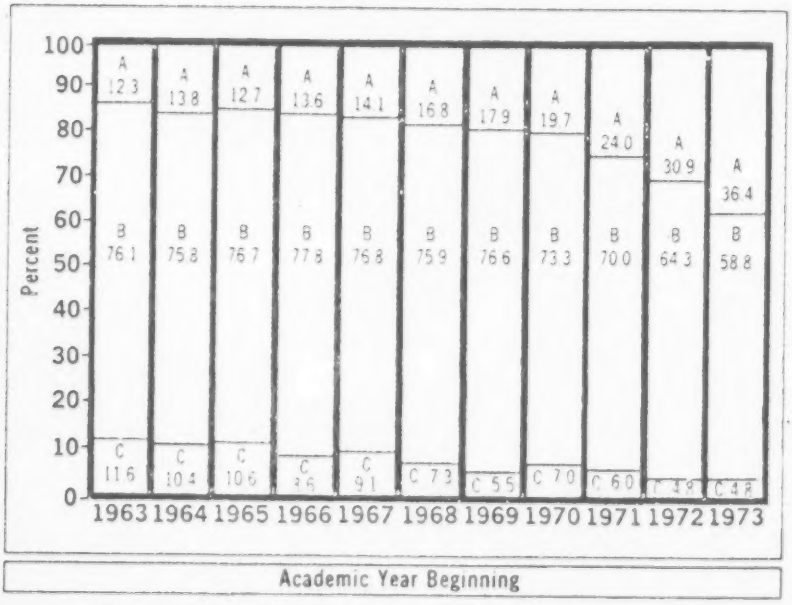
SOURCE: "Study of United States Medical School Applicants 1972-72", Dubé and Johnson, Journal of Medical Education, p. 851

Applicant qualifications have also been increasing over the last several years if measured by undergraduate college grade point averages (GPAs) and raw scores on the Medical College Admissions Test (MCAT), the profession's aptitude test. In the ten years between 1963 and 1973, the percentage of first year medical students with GPAs of 3.6 or better on a 4.0 scale (classified as an "A") almost tripled from 12.3% to 36.4%.

TABLE 29

MEAN GPAs OF APPLICANTS FROM 1963-1973

(By Percent)



SOURCE: "Medical Education in the United States, 1973-74," 74th Annual Report, Crowley, Journal of the American Medical Association Supplement, p. 21.

A recent DHEW study also noted that today's medical school applicants are a highly qualified and select group.

> The average undergraduate GPA of entering medical students nationwide appears to be in the range 3.15-3.35...Grading standards vary across the country and change over time, but these averages do imply that the successful applicants to medical schools are drawn from the top 15% or so of their graduating classes. The schools from which the matriculants come are also generally more competitive than the average in admissions. (16:23)

> Preliminary comparisons by sex of undergraduate college grade-point averages indicate that accepted women applicants (in 1972-73) had the same mean biology, chemistry, physics, and mathematics (BCPM) GPA as accepted men but that the mean total GPA for accepted women was slightly higher than that reported for accepted men. (33:858)

Finally, a look at Table 30 below shows a continuous rise in the raw scores of accepted applicants to medical colleges on all four parts of the MCAT aptitude test--verbal ability, quantitative ability, general information, and science.

TABLE 30

—Mean Medical College Admission Test Scores of Accepted Applicants During the Past 21 Years*

Year	Verbal Ability	Quantitative Ability	General Information†	Science	Taking MCAT, No.	Total Accepted Applicants, No.
1953-1954	519	525	524	530	7,426	7,756
1954-1955	517	521	530	533	7,527	7,878
1955-1956	524	528	527	522	7,688	7,969
1956-1957	525	525	526	519	8,012	8,263
1957-1958	528	517	527	516	8,223	8,302
1958-1959	527	532	520	523	8,301	8,366
1959-1960	529	527	527	527	8,449	8,512
1960-1961	527	533	527	533	8,500	8,560
1961-1962	533	538	522	537	8,633	8,682
1962-1963	544	537	541	545	8,920	8,959
1963-1964	537	551	549	545	9,021	9,063
1964-1965	540	538	561	556	9,015	9,043
1965-1966	541	583	565	549	8,983	9,012
1966-1967	549	585	566	550	9,012	9,123
1967-1968	554	596	566	565	9,676	9,702
1968-1969	555	600	569	577	10,010	10,092
1969-1970	562	603	569	577	10,493	10,514
1970-1971	559	606	560	558	11,434	11,500
1971-1972	560	606	556	565	12,324	12,335
1972-1973	562	614	555	575	13,633	13,757
1973-1974	567	609	563	592	14,062	14,335

*From the study of applicants, Association of American Medical Colleges.
†Prior to May 1962 this subtest of the MCAT was designated "Understanding Modern Society."

SOURCE: "Medical Education in the United States, 1973-74", Crowley, 74th Annual Report, Journal of the American Medical Association, p. 81.

Even more instructive is a comparison of scores of accepted to non-accepted applicants over time. Table 31 compares the raw scores of accepted, non-accepted, and total applicants over the period 1969-70 through 1973-74 and demonstrates an increase in each group's performance. However, a comparison of non-accepted applicants' scores in 1973-74 to those of accepted applicants twenty years earlier in 1953-54 in Table 30 above shows them to be more similar than are the scores of accepted applicants for both years. In other words, recent and current medical school rejects perform as well on the profession's aptitude test as accepted applicants did a short twenty years ago.

TABLE 31

MEAN MCAT SCORES OF ACCEPTED, NONACCEPTED, AND TOTAL APPLICANTS
1969-70 THROUGH 1973-74

First-Year Class	Mean MCAT Scores				No. Taking MCAT	Percentage of Total Applicants	Total Applicants
	Verbal Ability	Quantitative Ability	General Information	Science			
ACCEPTED APPLICANTS							
1969–70	562	603	569	577	10,493	99.5	10,547
1970–71	559	606	560	558	11,434	99.4	11,500
1971–72	560	606	556	565	12,324	99.9	12,335
1972–73	562	614	555	575	13,633	99.1	13,757
1973–74	567	609	563	592	14,062*	98.1*	14,335
NONACCEPTED APPLICANTS†							
1969–70	506	536	524	507	13,139	94.4	13,918
1970–71	506	539	518	499	12,783	94.7	13,487
1971–72	519	549	517	510	15,941	94.7	16,837
1972–73	512	551	514	510	21,080	94.2	22,378
1973–74	518	550	521	524	25,217	96.4	26,171
TOTAL APPLICANTS							
1969–70	531	566	544	538	23,632	96.6	24,465
1970–71	531	571	538	527	24,217	96.9	24,987
1971–72	537	574	534	534	28,265	96.9	29,172
1972–73	531	575	530	536	34,713	96.1	36,135
1973–74	535	571	536	548	39,279	97.0	40,506

* Acceptees examined before 1968 are not included.
† Includes those who withdrew before any action was taken on any of their application.

SOURCE: "Datagram: Applicants for the 1973-74 Medical School Engering Class," Johnson, Journal of Medical Education, Vol. 49, No. 11, November 1974.

Yet in spite of, and perhaps to a certain extent because of the increase in both numbers and qualifications of the applicant pool, the medical profession is confronted with major concerns about whether the present admissions system helps or hinders schools of medicine in trying to meet current social needs for more primary care physicians and improved quality of care. Most medical schools have relied heavily on the use of GPAs and MCAT scores--and in both cases particularly on those components reflecting quantitative and scientific disciplines--to help select students from among the many qualified applicants to medical schools. They thus tend to screen heavily in favor of those students who excel in the physical and biological sciences. Whether such students will make the best physicians is an issue of major concern for admissions committees, researchers, and others in the profession. Focusing on the science and quantitative portions of the MCAT as an applicant screening device as many schools do is functional if the school's primary objective is to produce researchers and science-oriented practitioners. It may not be functional to ignore the verbal and quantitative portions if the school's objective is to produce patient and care-oriented practitioners--that is, "applied" medical scientists.

An Assistant Dean for Student Affairs notes that as currently used, both the MCAT and GPA as selection criteria.

> ...appear clearly to have gone against those candidates who are seeking general practice, with 31% of the non-accepted candidates designating such a career plan but only 22% of the admitted candidates doing so. The converse of that shows 19% of the non-accepted candidates expressing interest in at least some degree of research and teaching while 23% of the admitted candidates had such a plan. (80) (See Table 32.)

And most researchers agree that about the only thing the MCAT predicts is survival in the first year of medical school but certainly not eventual professional practice success. (45, 73, 94)

TABLE 32

MCAT Scores and College Grades of Applicants with Various Career Plans, 1972-73 Entering Class*

Career Plans	Individuals No.	Individuals Percent	Mean MCAT Scores VA	QA	GI	Sc	Grade-Point Average
ACCEPTED APPLICANTS (*N* = 10,249)*							
1. General practice	2,291	22	556	601	548	566	3.27
2. Specialty practice	2,803	28	558	610	551	568	3.31
3. Research and/or teaching	322	3	578	653	568	609	3.40
4. Combination of 2 and 3	2,024	20	577	632	565	593	3.33
5. Other medical fields	134	1	585	615	576	575	3.20
6. Other nonmedical fields	0	—	—	—	—	—	—
7. Undecided	1,111	11	582	634	573	592	3.39
8. No response	1,564	15	558	625	561	579	3.31
NONACCEPTED APPLICANTS (*N* = 13,507)*							
1. General practice	4,172	31	505	548	507	505	2.83
2. Specialty practice	3,564	26	508	550	508	499	2.85
3. Research and/or teaching	435	3	525	588	516	542	2.90
4. Combination of 2 and 3	2,197	16	524	571	521	525	2.89
5. Other medical fields	209	2	530	554	524	511	2.84
6. Other nonmedical fields	15	†	504	579	520	496	2.93
7. Undecided	1,008	8	535	581	528	531	2.92
8. No response	1,907	14	511	561	520	518	2.83
COMBINED ACCEPTED AND NONACCEPTED APPLICANTS (*N* = 23,756)*							
1. General practice	6,463	27	523	567	522	527	2.99
2. Specialty practice	6,367	27	530	577	527	530	3.06
3. Research and/or teaching	757	3	548	616	538	570	3.12
4. Combination of 2 and 3	4,221	18	549	600	542	558	3.10
5. Other medical fields	343	1	551	578	544	536	2.98
6. Other nonmedical fields	15	†	504	579	520	496	2.93
7. Undecided	2,119	9	560	609	551	563	3.17
8. No response	3,471	15	532	590	539	545	3.05

* Of the 36,135 applicants to the 1972-73 entering class, only 23,756 (66 percent) had both MCAT scores and GPAs available for analysis and for inclusion in this table. The mean scores for all 36,135 applicants were Verbal Ability (VA), 531; Quantitative Ability (QA), 575; General Information (GI), 530; and Science (Sc), 536. Comparable scores for the 23,756 subjects included in this table were: VA, 535; QA, 584; GI, 533; Sc, 541. This indicates that the 66 percent sample mean MCAT scores were slightly higher than the mean scores for all applicants.

† Less than 1 percent.

SOURCE: "Study of U.S. Medical School Applicants, 1972-73," Dube and Johnson, Journal of Medical Education, Vol. 49, September 1974, p. 866.

The Association of American Medical Colleges (AAMC), the administrator of the MCAT, has recognized these concerns and problems with the test and has recently instituted a process to substantially revise it. The AAMC points out that the original "...purpose of the Scholastic Aptitude Test for Medical Students,

(the precursor of the MCAT)...was to reduce the high attrition rate (over 20 percent prior to 1930) among entering freshmen." (16) Thus according to the AAMC Director of the Division of Education Measurement and Research, it was never designed to predict success as a physician; to perform a diagnosis of educational readiness for medical school; or to discriminate effectively among those characteristics it assesses. Rather its purpose was simply to address the more basic question of who would and who would not succeed in medical school.

> With the consistent improvement in the academic qualifications of the applicant pool, the test may be forced to provide discriminations for which it was not intended. This means that the accepted pool may become more and more homogeneous with respect to a very limited set of characteristics. These, however, may not be the ones which society is seeking to satisfy its needs for the delivery of primary care in a variety of settings. (16)

Thus, for the last several years the AAMC has been involved in a major effort to replace the MCAT with:

> ...a full range of performance criteria in clinical coursework and clinical practice that can be used to identify those personal characteristics which may be utilized in admissions assessment to predict future succesful performance in medicine. (11)

The effort, known as the Medical College Admissions Assessment Program (MCAAP) began in the spring of 1972 with a survey designed to solicit attitudes toward a possible MCAT revision among AAMC's main constituencies including the Association of Advisors to the Health Professions, the Group on Student Affairs, the Council of Deans, the Group on Medical Education, the Organization of Student Representatives, and the Council of Academic Societies. Survey questions and their responses are interesting and worth noting here given (4) contrasts to the MCAT's four components and the way they are currently used in admissions screening and (1) the extent to which they contrast with some and support other notions regarding reasons women's attributes make them particularly appropriate or not to participate in certain aspects of the medical profession.

The first question probed feasibility, acceptability, and utility of a revised MCAT. The vast majority of all groups surveyed agreed such a program was feasible, acceptable, and useful. The second question asked for opinions regarding essential components of a medical school readiness battery including, particularly, whether chemistry, biology, physics, psychology, and sociology were essential elements for development. Respondents generally agreed that these areas were most important but many felt skills in communications and quantitative ability should be added and that psychology and sociology were perhaps less important. Concern with communications skills is interesting here given the apparently common and current tendency among medical schools using the MCAT to disregard or devalue the verbal and general knowledge scores in the test. The third question queried what provisions, if any, should be considered in conjunction with the issue of "culture fairness", and although this was an area of great concern among respondents, there was little agreement concerning solutions.

Question four asked for opinions regarding the essential elements of aptitude for the education of a physician. In rank order, the following lists the survey responses: intelligence, humanity, scientific and quantitative background, ability to communicate, emotional maturity, analytical ability, reasoning ability, motivation, ability to generalize, integrity, dedication, memory, decision-making ability, and physical stamina. Of interest here is, again, the rather high rank order assigned to "ability to communicate". Noteworthy, too, is the importance assigned to "emotional maturity" given the emphasis in the profession on selecting for young candidates and against the mature applicant and given observations by many of our field respondents that the virtue of the older applicant is, in fact, his/her social and emotional maturity. Of additional interest is the de-emphasis on decision-making ability and physical stamina, both characteristics which women were frequently described by our field respondents to lack and thus as reasons why women are inappropriate for, or not found in large numbers in the profession, or at least in certain of its specialties.

Question five asked respondents to rank the importance of non-cognitive assessments such as attitudes, motivation, personality, biographical information, and so on. The great majority of respondents considered such assessments as either very important or important with less than 10% stating them as not important. (15)

Based on this input and the deliberations of a MCAAP Task Force convened in September 1973, AAMC and several contractors are now engaged in designing a replacement for the MCAT composed of cognitive and non-cognitive parts. Unlike the current MCAT which tests for learned and retained information, the cognitive portion of the MCAAP is designed to test skills at analyzing written and quantitative problems without required recall of scientific information. Its five parts will include:

- analytic reading
- quantitative reasoning
- biology
- chemistry
- physics.

This portion of the test is scheduled for its first use in the spring of 1976.

On a longer term basis, the MCAAP Task Force recommended the development of separate cognitive tests in the following areas:

- problem solving
- oral and written communication, and
- student-selected achievement tests in humanities and art, the behavioral and social sciences, or the biological and physical sciences.

Reflecting the additional input of patients, physicians, and physician peers, the AAMC is currently preparing to do extensive research on several non-cognitive elements for the second planned portion of the new test including:

- physical and motivational staying power
- coping capability
- interprofessional sensitivity
- interpersonal sensitivity
- compassion
- decision-making

- realistic self-appraisal, planning to maintain skills
- ethics and ethical behavior (no work has been done on this item yet and there is much uncertainty on what to look for, and how to define or tap).

Spokesmen for the AAMC state that the purpose of the new test is not to change in any major way the composition of the applicant pool to medical schools nor even necessarily who is chosen from it but rather to provide schools with more sensitive predictors of performance and needs for particular kinds of training in various clinical and non-clinical (learning) situations. *(SOURCE: Personal Communication, AAMC.)* More particularly, the non-cognitive portion of the test is really intended to prove a profile of each student rather than a score, although it will still be possible for schools to rank order applicants on a scoring basis, and they will, of course, be free to use the new test however they wish.

The MCAAP Task Force also recommended several additional components to the non-cognitive assessment program which reflect in varying degrees the difficulties of measuring non-cognitive characteristics of applicants and attempts to improve means by which such information can be obtained and measured. These include:

- Appointment of a committee to research and develop a centralized system for collecting appropriate comprehensive applicant biographical data which, while respectful of rights to privacy, would permit provision of the data to medical school admissions committees in a manner tailored to their individual and particular needs.
- Appointment of a committee to develop a uniform format for a letter of evaluation which can be used by interested pre-professional advisors and medical schools.
- Appointment of a committee on interviews composed of experts from industry as well as education to design a training program for individuals who interview applicants to medical schools including pre-professional advisors and members of medical school admissions committees.
- Compilation of a national directory of regional interviewers especially well qualified for interviewing applicants from various minority groups. (11)

Efforts to overhaul the MCAT and create an admissions screening and selection instrument which can serve the needs of today's medical school admissions committees are key steps the medical profession is taking through the AAMC to cope with the applicant pool quantity/quality/appropriate choice problem. Others include a recently-instituted Early Decision Program through which participating applicants elect to apply to only one medical school and to guarantee their enrollment if accepted. The participating schools in turn agree to make an early decision on such applicants so that if rejected, there is still adequate time for the applicants to submit application to other institutions. In the year 1973-74, 51 institutions participated in this program and accepted 628 students who filed only to those institutions but would otherwise have filed an estimated 5,000 applications. (13) Very clearly the purpose of the program is to reduce the volume of multiple applications students submit and medical schools within the system must process. However, if the saved 5,000 applications are added to the 268,090 applications which were submitted in 1973-74, the 5,000 "non-applications" represented only 1.8% of the total, and the 628 students represent only 1.6% of the total 40,507 applicants for that year. The program shall have to be much more broadly used if it is to represent significant assistance either to the schools in selecting students or to the applicants in reducing competition and anxiety about medical school admissions.

AAMC is also currently investigating the technical and economic feasibility of a national student admissions matching system, and has conducted pilot tests in California and Michigan. This program presumably with other of AAMC's recent admissions-related programs, is an effort to make the application/admissions process more rational and manageable both for medical schools and for medical school applicants. (13)

Finally, the AAMC has for some years run a centralized application service for medical school applicants and schools, the American Medical College Application Service (AMCAS). Students participating in the AAMCAS system can submit applications to as many AMCAS participating schools as the students wish by completion of a single application form and payment of fees according to a schedule based on the number of schools to which they wish their applications sent. Fees range from $10 for one school to $50 for seven schools with an extra $10

for each additional school thereafter up through the total of 86 schools which participated in the AMCAS system in 1974-75. The service forwards to each participating school selected by an applicant a copy of the person's application, copies of official undergraduate transcripts, and the applicant's MCAT scores.

The intended advantages of the AMCAS system are to reduce the amount of duplicate application preparation required of students applying to multiple schools and, for the schools, to standardize at least some parts of the applicants' files. However, the very fact that AMCAS streamlines and simplifies the application process for applicants may have contributed to two undesirable and perhaps unanticipated consequences which work in opposition to the very purposes of the system. First as Table 27 illustrates, the number of total applications in the system has risen sharply over the years in terms of absolute numbers and the average number of applications per applicant. The sheer volume of applications in the system which must now be processed is staggering even with the standardized format AMCAS offers. In 1974-75, for example, almost 330,000 applications were submitted by approximately 43,000 applicants for only about 14,500 medical school places. (2) Second, the disproportionate increase in the number of applications per applicant compared to the number of applicants per available first year medical school places gives the appearance that competition for admission is increasingly more severe than in fact it truly is. As a consequence this may contribute to the well-known and widely criticized competition that occurs as part of the "premed grind" among undergraduate students who are anxious about their success in being qualified for and admitted to medical school. In turn it may also be the impetus for students to submit ever more applications in hopes that one will be successful, even though AAMC applicant studies have revealed that submitting a number of applications greater than the average rarely increases an applicant's chances for admission. (33)

Admissions at the Schools

The admissions task at individual schools is at least as difficult and poses as many problems as in the profession overall. Judging from the schools we visited, average well-known medical schools participating in the AMCAS system

currently receive between 3,000 and 4,000 applications for their average 100 - 150 first year places. Schools which do not participate in AMCAS may receive only slightly fewer applications. The main issue for a school, then, is to somehow fairly select from its large and well-qualified applicant pool the best possible students with the least expenditure of administrative, faculty, and other personnel time and cost. The minimum tasks it must perform to accomplish this selection include:

- establishing an admissions structure (committee, admissions office, etc.)
- establishing objectives for medical education and/or criteria for screening the applications and reducing them to a manageable number for serious consideration and final selection
- conducting admissions interviews
- establishing a final selection process
- providing or allowing appeals/flexibility in the system

Establishing a Structure and Procedures for Admissions

All of the medical schools we visited used admissions committees to handle much if not all of the work involved in the admissions process. However, schools varied significantly on the size, structure, composition, membership selection/-replacement procedures, and roles for these committees.

Regardless of their size, admissions committees' structures are usually of two types. Either they are composed of a regular, well-defined membership group, all of whom participate in all phases of the admissions process; or they include a shifting membership usually composed of a small core group which participates in all phases of the process and which is supplemented by a larger group of individuals who participate only in certain aspects, usually in interviewing.

Membership composition and selection vary greatly. In many institutions only faculty members and administrators serve on the admissions committee, and they are usually there by dean's or departmental chairmen's appointments. In some cases they are volunteers. In five of the schools we visited, students

are also a part of the admissions committee and they, too, may either be appointed by the dean or may be volunteers. In some schools, however, and increasingly, students are elected by their peers. Where students are included on admissions committees, they normally enjoy the same full range of responsibilities and authorities (voting rights, opportunities to review applicant files, etc.) as do other members of the committee. School charters, however, may prevent students from holding voting status in some institutions.

Given the many issues today with which admissions committees must be familiar as they proceed in their work, e.g., the need to broaden the range of personal characteristics of accepted applicants, the need to select people who will become primary care practitioners, the requirement to be fair and impartial to both sexes and all racial and ethnic groups--committees with multiple age, sex, ethnic and administrative/faculty/student representation seem best equipped to bring multiple and thus flexible points of view to the admissions process. Individual biases and interests are more likely to offset than to reinforce one another at any stage in the admissions process, thus helping to assure a diversity of considerations in selection. Procedures guaranteed to replace committee membership on a regular and fairly frequent basis are also useful to the same end. Formal orientation and/or training programs would similarly by useful to sensitize committee members to their tasks, to current issues, to best interviewing techniques, and so on. However, of the nine schools we visited, only two had any sort of formal or semi-formal training mechanism for these purposes.

Establishing Objectives for Medical Education and/or Criteria for Screening the Applicants

The task of narrowing the applicant pool to a manageable number needs to begin with a clear statement of the school's medical education goals and a related set of criteria deemed useful for ultimate applicant selections consistent with those goals. Of the schools we visited, only three had specified their goals sufficiently well to provide the basis for an explicit and standardized set of criteria for the admissions committee to use throughout the applicant screening and selection process. In the others, agreement on criteria for selection

was generally limited to a set of procedures for narrowing the initial applicant pool to the group which would be invited for interviews.

Most of the schools we visited, and apparently most medical schools, use GPAs and MCAT scores whether singly or more usually in combination to establish a cut-off line in the applicant pool below which applicants are removed from further consideration and sent letters of rejection. This sort is either performed by computer or may be performed by staff in the admissions office. Applicants who remain in the pool after this first sort are then normally invited to send a "secondary application" to the school which typically consists of personal, biographical information additional to that included in the AMCAS application, letters of recommendation from persons familiar with their work, and so on. The secondary applications along with the original GPA, MCAT, and other information is what goes to admissions committee members for review and consideration as part of the subsequent steps in selection.

Only about 75% of all medical schools currently participate in the AMCAS system, and it is our understanding from some of our field informants that some of the non-participating schools consider MCATs and GPAs as too narrow and arbitrary a set of indicators of potential student capabilities to use even at this early stage of the screening and selection process. Accordingly, such schools require students to send personal statements, letters of recommendations, and other materials early in the process so these may be reviewed as part of the student's total file and included in the early screening criteria. These broader screening systems tend to work to the advantage of the atypical or non-traditional candidate to the extent that other parts of such applicants' files may offset and compensate lower MCAT scores if indeed lower scores are at issue. This would be particularly true for women candidates whose MCAT scores are typically somewhat lower on the science and quantitative portions of the test than are men's, as illustrated below in Table 33. Of the schools we visited, some consider these raw score differences significant; others do not, and it is among this latter group that we more often found systems for reviewing whole files and/or interviewing maximum numbers of candidates.

TABLE 33

MEAN SCORES ON THE MCAT SUBTESTS FOR MEN AND WOMEN APPLICANTS TO ENTERING CLASSES, 1971-72 AND 1972-73

Entering Year	Verbal Ability		Quantitative Ability		General Information		Science		No. of Examinees		
	M	W	M	W	M	W	M	W	M	W	Total
1971	534	556	577	552	533	539	537	513	24,647	3,618	28,265
1972	527	555	580	552	528	537	539	516	29,475	5,238	34,713

SOURCE: "Study of U.S. Medical School Applicants, 1973-74" Dubé and Johnson, Journal of Medical Education, p. 857.

From the student's point of view, making it past the first screening and being invited to send secondary application materials is important because it provides the first real opportunity in the admissions process to have some control over the type, amount, and quality of the information upon which s/he will be evaluated. Some knowledge of each school's medical education interests and emphasis is important at this point, however, since many candidates remain in the applicant pool, and it is essential for each student to find a way to differentiate him or herself from the rest. Some schools are very explicit in their catalogues about their medical education aims and/or about the kind of person they seek as students. Thus they provide applicants with the information base on which to "build their case" as interesting applicants. Other schools are vague and provide little or no guidance to prospective applicants. Candidates are then dependent on whatever personal contacts they may have with the school or with those ever-present informal information networks which operate at undergraduate institutions to carry to undergraduates data and rumors about various medical, graduate, and other professional schools. Students who are not a part of these networks by virtue of age, sex, race, or for other reasons are at something of a disadvantage in obtaining the information needed to present themselves as interesting applicants and bring notice to themselves and their candidacy for admissions.

Conducting Admissions Interviews

All of the medical schools we visited relied heavily on personal interviews to assist in their final selection of students, and this is apparently true across the nation. Researchers differ in their assessments of interviewers' abilities to predict future performance in medical school, particularly in

the clinical years. Some note that at least the interviewers' judgements tend to be better predictors than the GPAs and MCAT scores. (45, 73, 95) Others, however, contest this and claim that research on interviews shows that "...the usual finding is that ordinary interviews add nothing to the predictions of either academic success or job performance." (13) Whatever the researchers conclude, however, it is clear that most medical schools do assign great importance to the admissions interview. The effort they are willing to invest is in itself a good measure of the value they place on it. Often hundreds of applicants will be interviewed for as long as an hour by each of two or three faculty members in order to select a class of under 100. Such an enormous investment of faculty and administrative time often leads the schools to wonder if it is all worth it. As one faculty member put it:

> *The interview carries a great deal of weight, way out of proportion to what it deserves. Interviews are very much over rated, but still they're the one way you can distinguish. (Faculty, male)*

Most of our faculty and administrative respondents would agree with that faculty member and a dean who pointed to the interview as, in his opinion, a difficult way, but the only way to distinguish for selection a few among hundreds of applicants, all of whom are qualified.

> *Of the 700 or 800 who will be interviewed, well, all of them are considered to be--in fact have demonstrated very superior kinds of achievement academically and they are within a group where the differences between someone that has an A+ average with MCATs of 500 or a straight A average with MCATs of 498. There's no significant difference between those individuals in terms of ability to get through a medical school curriculum with minimal effort. Therefore, the range of interests shown by a person and the kinds of demonstration of commitment and purposes and so forth get to be very important. They're subjective, they're very hard. Certainly they should be approached very, very seriously. (Dean, male)*

Most people familiar with the admissions process would also agree with that dean that it is a very inexact process and that the interview is too. The interview is an attempt to get a sense of the applicant's background, a sense of the "whole person" against criteria which are, in most cases, not well-defined or explicit. In the absence of clear criteria, and given the

importance of the interview, a key and critical feature of the process then becomes the people who conduct the interviews.

> *The key element in our admissions process is a personal interview with one or two members of the faculty. They are long interviews and we carry them out for everybody that we seriously consider for admission. And I guess you've got to say that if you put weight on an interview, you're really putting weight on the judgement of the people doing the interview. You also probably have to accept that different individuals have somewhat different ways of arriving at conclusions about people. I think in talking to people in the committee and from reviewing with the committee a criterion, standards and all that, that the primary effort is to identify people who have qualities of personality and commitment and so forth that are thought by the interviewers to be those that would be appropriate for--would confirm a judgment that the person would be a first-class physician. (Dean, male)*

Since the applicants who are chosen for the interview are all academically qualified, the purpose of the interview is to determine which of the applicants are the most appropriate for the profession in terms of their personal attributes, motivations, interests, and commitments. The comments of a faculty member are illustrative.

> *I look for four things. First I look at how comfortably and and effectively the applicant can communicate with me. That interaction is not unlike the patient-doctor interaction. Second, I ask can the applicant be sensitive and intuitive, can he or she appreciate the detail of answer you want on a question. Some can, others, you can't shut them off. That ability speaks for a good person in a clinical situation--doctors have to be good listeners. The third thing I look for is to verify in the interview what you see on the application form. Everyone knows now that you want a broad, rather than a narrow individual, so sometimes people put down lots of interests and one often finds out that these things are superficial. And fourth, I look for curiousity. A good doctor is curious. (Faculty, male)*

For many of the students we interviewed, the most difficult part of the entire medical school admissions process was the interview. This is particularly true for women since it places them in a situation where their personal qualities will be assessed for a profession whose doors have only recently opened to increased numbers of women, minorities, and other non-traditional candidates. It also places them in a situation where the issues, real and imaginary, of women's

professional drop-out rates and inactivity on the one hand, and physician shortages and costs to educate on the other, converge and make their candidacy for admission by definition different than men's.

In most of the schools we visited or others at which our respondents had been interviewed, interviewers still apparently pose what have come to be called "women's questions"--questions about plans for future marriage and family in relation to plans for professional practice. Both interviewers and students we spoke with agreed that in some cases the purpose of raising such questions seems principally to assess whether a student is aware of the additional difficulties her sex will create for her as a student/professional and a wife/mother and if so, the manner in which she has thought about and defined them. In short, for the woman applicant questions about future marriage and family plans provide a vehicle for assessing maturity and realism regarding professional and future life expectations, and the questions have no "right" answer.

In other instances, however, women students did report feeling that "women's questions" are used and meant as significant screening devices designed to determine the seriousness of their commitment to the profession and their intent to practice and repay to the society the costs of their education. In such instances, women reported feeling that there are a series of right answers they must make to such questions or else be screened from further considerations.

In response to the interview question about marriage and family, women students we interviewed consider the right answers to include: 1) they will put in the same number of practice hours as men; 2) they will not have children while in school; 3) they will not react to such questions as "How would you like your children to be brought up by menials?" Women students spoke often about these interview questions and the appropriate answers. The following excerpt is illustrative:

R *But you see when I was interviewed for X Medical School the doctor who was talking to me said something like: 'Well, are you applying to medical school so that you can meet a doctor and get married?'*

I *What's the right answer to that?*

R *Well, there's no answer. But there are answers to questions like: 'Why can't you do what you want to do as a nurse?' The answer to that one is, 'I want autonomy.' And the right answer to the question, 'What will you do if you are rejected?', is 'I will reapply.' And you're supposed to say that you want to have children because that's normal, and you're supposed to have plans set up and to have studied the issue of 'Do working mothers make poor mothers?' and so on. And you assume that you'll work in group practice where you can plan your on-call things But you're not supposed to say you don't want children.*

I *Does everyone know that?*

R *Oh yeah. I never told the truth in my interviews. You always just say what they want to hear. If you say 'I don't want to have children', then their next question is, 'Well, why not?' If you say, 'Well, gee, I don't want to,' they'll say, 'Well, every normal woman does. What's wrong with you?' I mean, that becomes the logical sequence of questions.*

I *If all of you know what the right answers are, don't they think it's a little strange that every woman who comes in has the same answer?*

R *No. Because that's being normal women. (Second year student, female)*

Several faculty members with whom we spoke felt strongly that questions about marriage and family were wholly inappropriate and noted:

> *I don't ask them questions about marriage and family. It is none of my business. Whatever happens, they have to deal with it. I know one of my colleagues asks this question of good looking women only, not of average-looking women and not of men. (Clinical faculty, male)*

Because so much discretion in the content and tone of the interviews is left to the individual interviewer, his/her personal characteristics, opinions, and biases are perhaps the single most critical set of influences on the interview process as a whole and on the particular experiences each applicant will have in his/her interviews. Thus both the range of interviewer characteristics as well as the format used for interviews are significant variables in structuring and limiting the impact of idiosyncratic interviewers. For example, our respondents in general noted much pleasure and comfort in being interviewed by students and, among women, by women. There were cases, however, where women students reported that their experiences with women interviewers were decidedly

negative. These were cases where the women students reported that their interviewers identified so very closely with the most conservative values of the profession that they made it difficult for the applicant to meet required levels of acceptablility.

Finally, varying interview formats have significantly differential impact on students' feelings of comfort and confidence about their interviews. Generally, one-on-one individual interviews seemed to most of our respondents much preferable to those in which the applicant is interviewed by a large group at one time. The comments of a Black woman medical student summarize this.

> *At one of the other schools I applied to, they paid my plane fare and expenses--it was kind of an affirmative action weekend. But I was very, very uneasy. It was a situation where I was constantly thinking 'Should I say this, should I say that?' I didn't know exactly what to do, and the interview was the sort of thing where I constantly had to watch out what I didn't say as well as what I said. It was one of those things where everybody's looking and staring at you and you don't know which way to turn. I've never been through an experience so bold in my life. Everbody who was anything important in the school--it was about 12 people sitting around. And you're sitting at the head of the table, one student, and it was, 'What's your name, rank, serial number' kind of thing. It was really awful.*
>
> *Now the experience here was completely different. As soon as I walked in the room I got relaxed. Here the woman who interviewed me said, 'Hi, I'm so and so'. It was really different. I relaxed, I could communicate a lot better and everything. In that other situation I was completely tense. (First year student, female)*

From the school's point of view, an applicant's overall reaction to his/her interview experience at this institution should be of great concern. Many of the students we interviewed told us they rejected certain schools to which they applied on the grounds that they felt uncomfortable, unwelcome, and treated poorly in interviews at those institutions. Thus while the major purpose of interviews from the school's official point of view may be to identify appropriate candidates for admissions, the interviews may also have the additional, perhaps unintended consequence of turning people off Over time, this may create a reputation for the school which is self-defeating in terms of its ability to recruit and enroll students from a broad spectrum of applicants.

Establishing a Final Selection Process

Once student files are complete and interviews are finished, the arduous task of actual selection occurs. At this point admissions committees must begin to make explicit and agree on at least some of the criteria which will be used to sort among applicants. The committees must also establish the selection procedures they will use.

Establishing criteria for selection continues to be a difficult task at this stage. MCAT scores and GPAs are no longer of particular significance since all of the applicants still under consideration have already met the standards specified for those criteria. State residency requirements serve to put some limitations on the applicants who will be considered for admissions, especially in public schools. For the 1974-75 entering class of approximately 39,000 applicants to state-supported schools, only about 2% were accepted to a medical school in a state in which they were not a resident. (2) As state governments also increasingly support private institutions with public funds, the pressure to take in-state residents will continue to grow and doubtless serve to limit even further the number of out-of-state residents who will even be considered by schools for admissions regardless of their other qualifications.

Historically, age has served as a key limiting criterion in the final selection process. As Table 34 below indicates, much higher proportions of both men and women applicants are chosen from among younger than older applicant groups.

TABLE 34

ACCEPTANCE RATES OF APPLICANTS BY AGE, 1972-73 ENTERING CLASS

	All Applicants				Accepted Applicants					
		Number			Total		Men		Women	
Age*	Percent	Total	Men	Women	No.	Percent	No.	Percent	No.	Percent
17-20	5.0	1,820	1,376	444	997	54.8	757	55.0	240	53.4
21-23	61.4	22,175	18,996	3,179	9,782	44.1	8,256	43.5	1,526	48.0
24-27	23.2	8,367	7,166	1,201	2,166	25.9	1,739	24.3	427	35.6
28-31	7.3	2,625	2,205	420	611	23.3	488	22.1	123	29.3
32-37	2.5	911	732	179	177	19.4	141	19.3	36	20.1
38 and over†	0.6	222	166	56	18	8.1	11	6.6	7	12.5
Unknown	0.0	15	14	1	6	40.0	6	42.9	0	0.0
Total	100.0	36,135	30,655	5,480	13,757	38.1	11,398	37.2	2,359	43.0

* As of September 1972.

† Oldest accepted male applicant was 42; oldest accepted female applicant was 43. Oldest male applicant was 56; oldest female applicant was 55.

SOURCE: "Study of U.S. Medical School Applicants, 1972-73," Dube and Johnson, Journal of Medical Education, Vol. 49, September 1974, p. 863.

Administrators and faculty members we interviewed who are responsible for admissions decisions frequently use the common explanation that the younger student is preferable because s/he has many more years of potential practice than the older applicant. Others justify over-selection of younger candidates on the grounds that they are more receptive students.

> *I'm saying that if I get the really bright youngsters and get them in sufficient numbers to fill our first year seats, then, although I'm sympathetic and understanding of the guy who is 32, I'm really not--I'd rather have the youngster My main purpose is to fill those seats and I want to fill them with the most plastic and receptive and sponge-like minds that I can find. (Dean, male)*

Emphasis on the younger student does tend to work to the disadvantage of women applicants who are often older and returning to school after brief careers in other fields and/or as mothers and wives. Evidently, however, admissions committees nation-wide may have made allowances in some way for women's differential age/application patterns since a higher percentage of accepted women applicants in 1972-73 were over the age of 24 than was true of the men. Using the data in Table 34 to calculate acceptances by age for men and women separately, 79% of the total male accepted applicants were in the age groups 23 and under as compared to 74.5% of the accepted women applicants.

In medicine, more than in any other of the MODVOPPP professions we studied, reluctance to admit students with other, prior professional or business careers runs high among admissions personnel and seems to result in a "negative" admissions criterion. This reluctance is linked, in part, to the preference for younger applicants, but it also seems to reflect a general solicitousness about the limited number of available first year places in medicine and a feeling that they should be reserved for applicants who do not already have an alternative economic niche in the world. In the case of minority and women applicants, this reluctance does appear to be relaxed in some cases and may account for the age differences noted above in accepted women applicants.

Of the schools we visited, only two had explicit or special criteria devoted to easing the entrance for women and/or minorities to the schools. In both cases, the criteria useful for women included such things as maturity, a

breadth of prior experience, a broad range of interests, and so on. In none of the schools were special points or other forms of weighted criteria used for women in the admissions process.

At this stage, admissions committees use several different systems for making final applicant selections, whatever the criteria on which the selections are based. In some cases, all applicants' files are presented to the admissions committee as a whole and the entire committee including all who participated in interviews discuss and vote. Variations on this procedure include systems which eliminate some participants from discussion and/or vote. Typically those eliminated from voting might include students (especially where school charters prohibit it) and/or extra interviewers; and those eliminated from discussion might include interviewers whose comments and observations about various applicants would be submitted to the committee in writing. This system and its variations--which we might call an advocacy/adversary system--is characterized by the rather broad opportunity it provides for participants in the admissions process to discuss, argue, and make explicit whatever criteria, biases, personal preferences, and opinions influence their assessments of various candidate applicants.

A similar system which we might call a ranking system also involves the committee sitting as a whole where applicant dossiers are passed around the table with each member reading the file, listening to discussion about various candidates, and then assigning a score to each applicant. Bonus points are most frequently used in this system, if used at all, for minority group members, veterans, and so on. Scores are compiled and rank-ordered and the top scorers are those who are offered positions in the school.

A third method commonly used by several schools we visited we call a batch system. Here each member or a very small sub-committee of the whole admissions committee is given a batch of applications and asked to select a small specified number for admission. The sum of the individual batches then composes the entering class. Discussion and review of all candidates by the entire committee does not occur.

Some admissions people with whom we spoke talked about considering the use of a lottery system for selection although none have yet done so. In this case the admissions committee would work as a group only so far as to reject candidates whose secondary application materials and interviews indicate that they are not acceptable. All acceptable candidates would then be placed in a pool for selection by lottery or chance.

Of the several admissions selection systems we encountered and have described, those most advantageous to women, minorities, and other non-traditional candidates seem to be those where conflicting points of view and personal opinions and biases can surface publicly and be resolved and/or neutralized by other differing points of view. Those where selections depend more heavily on one or a small number of differing points of view are dysfunctional to the extent that there is no mechanism to check and off-set biases and attitudes which might systematically work against certain candidate groups. Thus of the adversary/-advocacy, rank-order, batch, and proposed lottery system, the batch system seems most undesirable for the non-traditional medical school candidate.

Providing or Allowing Appeals/Flexibility in the System

There are two points in the admissions process where applicants who are rejected may wish to appeal or question their rejection--after the first screening and prior to the schools' requests for secondary application materials and, of course, final acceptance/rejection. Schools we visited do not normally provide formal or published procedures for appeals, although several respond if appeals are made by placing a rejected applicant back into the applicant pool selected for interviews at stage one and/or forwarding the applicant's file to the Dean for decision at either stage. Applicants who have little experience or contact with medical schools and/or the informal information networks along which intelligence about informal appeals travels may be less likely to appeal unfavorable decisions--so, for example, non-traditional candidates such as women and minorities may be less in position to take advantage of the informal appeals system. And, while our field data provides no evidence on this, we could also hypothesize that women and other non-traditional candidates would be less likely to raise questions about rejections. For groups historically

under-represented in medicine, a rejection may be interpreted as verification of any doubts their members have regarding their own ability in particular or the group's ability in general to successfully compete for entrance to medical school. It may also be seen as evidence that they are not wanted.

Several researchers, including Weisman (97) have found that men and women receive different feedback following rejection from medical school. According to Weisman's study, men were more likely than women to be advised to apply to foreign medical schools, and one-fifth of the women in his study were advised to give up their career aspirations altogether. Weisman concluded that receiving either direct or indirect advice to reapply to medical school was the principal correlate of actually submitting a reapplication, so it is not surprising that he found that fewer women than men re-applied and that women were more likely to enter mid-level health careers. Our interviews with men and women students in all of the MODVOPPP professions both corroborate and dispute Weisman's findings in some interesting ways. Of the medical students we interviewed, it is our impression that women much more often than men made multiple applications to medical school in successive years. And based on our interviews with men in the other MODVOPPP professions, it is also our very strong impression that men who are not admitted to medical school frequently seek admission to alternate MODVOPPP professions--osteopathic medicine, dentistry, optometry, podiatry, and to some extent pharmacy--while the women in those professions are more often there on a first choice basis. As we conducted no interviews with women in allied or mid-level health professions, we have no data to indicate the extent to which these might serve as alternatives to women applicants rejected from medical schools as some of the other MODVOPPP professions appear to serve as alternatives to rejected males.

PRECLINICAL TRAINING

The curriculum of many medical schools is divided into preclinical and clinical periods. It has been traditional for medical schools to devote the first two years of study to basic natural sciences and the structure and processes of the human body. In the main, patients are not encountered until the third or fourth years when students rotate through a variety of medical and surgical

departments in a series of clinical clerkships. The traditional sharp distinction between classroom and clinical work has come into question in many medical schools during the past several years. Students complain that this system does not enable them to get a sense of the relationship of basic sciences to the requirements of real patient care; it is difficult for them to know how much of the information they receive in the first two years is really important to learn and remember. Students and educators have also criticized the dichotomy between science and clinical training on the grounds that the initial intellectual framework is the "scientific model" while much of clinical work may be considered to be interpersonal craft, even art. Students also complain of the traditional system that having to wait for so long to see a real patient engenders unnecessary anxiety about their eventual abilities to deal with real sick people. This also means that they feel distant from their motivating concern that the classroom/exam pedagogy of the first two years replicates the experience of pre-medical training and its accompanying patterns of competition for grades and honors.

Many medical schools have responded to these criticisms of a lock-step, two year/two-year curriculum and have instituted innovations such as:

- Extended programs
- Accelerated programs
- Optional tracks
- Early clinical experience
- Multiple electives
- Scheduled time out
- Grading options
- Half-day class scheduling
- Innovative teaching methods
- Early start programs
- Make-up tutorials
- Course sequencing changes
- Grievance and appeal procedures

- Pathway advising
- Rescue techniques
- Institutional monitoring of faculty
- Flexible grading options.

Early Clinical Experience

Some schools have found ways of integrating early clinical experience into the basic science training of the first two years. Early clinical experience may often be with basically well patients rather than the dangerously ill and may involve taking medical histories, drawing blood, and doing routine examinations. This enables the student to develop skills without risk to the patient. In some instances the school may train models to act as patients exhibiting certain symptoms. It has been argued that one unfortunate outcome of late clinical experience is that it leads to a preference among students for ill rather than well patients. If this preference can be countered, it may lead into later student preference for specialties which are more preventive or early-interventive in nature.

Early clinical experience is also partially designed to foster the original impulse of many students to serve and to cure. In addition, the experience seems to help build students' confidence in their abilities.

Flexible Grading Options

Many schools are experimenting with different kinds of grading systems. Pass/fail systems are now common. Grading has been criticized as fostering unnecessary competition and divisions among students. But many students self-select into professional schools from very competitive situations and, faced with the future reality of competing for internship and residency seats, sometimes exert pressure for some form of differentiation in evaluation. As a consequence, schools often take a middle road and allow the option of pass/fail grading with honors going to those students who ask to be considered.

When the school adopts a pass/fail system, this seems to relieve much of the competitiveness. But when the school couples pass/fail with honors, grading is, in effect, reintroduced. Since competition can highlight an identifiable group within the student population, it often has particular impact on those women who are highly successful, tending to further brand them and to cut them off from many social and informational networks and supports.

Multiple Electives and Flexible Course Sequencing

Some schools offer students the option of taking most courses in any sequence they like, including a wide range of electives. Such a system is often perceived to be an expensive option for the school, straining faculty and facility resources. It offers important benefits, however, by encouraging students to define for themselves educational needs and priorities and by forcing them to take responsibility for the construction of their own learning. Elective options often include areas such as medical ethics, health delivery systems analysis, and the psychology of pain and of death and dying--all courses which some schools define as important in preparing physicians for areas of change and innovation in the profession.

Pathways

Some schools have devised "pathway" programs within their curriculum. These are designed to provide early direction and preparation for specialty areas. Students may choose different course-work pathways to general areas such as research medicine, medicine-surgery, and so on. While this approach makes certain aspects of training more coherent and deep, it may cut some students out of certain specialty areas before they have the opportunity to make informed decisions. As a consequence, the school must provide good counselling and other programs to help the student make informed decisions. An important factor here is that the choice of a middle, generalist pathway may also cut off options by giving the specialists an inside track to certain clerkships and internships.

Accelerated and Extended Programs

Several schools have experimented with accelerating their programs for all students, while others offer acceleration or program extension as an option

to the student. Mandatory acceleration compacts training by eliminating summer and other breaks without reducing the actual numbers of months of schooling. In most of the instances of which we are aware, this has not been successful. The acceleration puts tremendous pressure not only on students but on faculty and facilities. Optional acceleration, however, seems successful in meeting the needs or desires of students who are very ambitious, under severe financial strain or who, through talent or prior experience, find medical training relatively easy.

AMA data (52) show that curricula range from 27 to 48 months in 109 schools responding to a survey. In 59 schools the MD may be earned in less than four years, and in 50 schools it requires at least four years. In 11 schools, a three-year curriculum is mandatory. Program extension is always offered as an option and normally allows a maximum of an extra year. Students exercising this option may do so by taking a few months out, by taking electives or even a related master's degree such as health planning, by spending a few months in full-time research or a special clinical clerkship, or by taking a reduced course load. This option does not pose resource difficulties unless the reduced load places the student in part-time status, thus endangering financial aid eligibility for the student and capitation eligibility for the school.

According to some of the medical school deans we interviewed, women tend to more often take advantage of acceleration and extension options than men do. Given the fact that women's family responsibilities are very likely to coincide with some part of medical training, the option of compacting training in advance of taking on family responsibilities, or of training under less time pressure simultaneous with family responsibilities, are important options for them.

Innovative Presentation of Material

In a few medical schools, educators have gone beyond rearrangements of course sequencing and requirements and are experimenting with unorthodox ways of teaching core medical knowledge. These experiments are efforts to address the problem of the sharp distinction between basic science training and the application of that knowledge to clinical problem solving. One major approach is to organize the material of the pre-clinical years around body systems

rather than along disciplinary lines. For example, students learn anatomy, physiology, pathology as they pertain to systems such as the circulatory system or the digestive system. A second major innovative approach is to organize material around a series of clinical problems. Students are presented with a series of on-paper cases which they must diagnose and treat. Students then go to traditional disciplinary material as resources for understanding and solving the problem with which they have been presented.

CLINICAL TRAINING

The move from pre-clinical to clinical training represents a major shift in educational mode and experience for the students. In this period of training students are introduced to the various areas of clinical medicine by rotating through a series of clerkships. Schools may vary in the number of specialty areas to which they require the students to be exposed. An AMA study showed that clerkships in medicine, pediatrics, psychiatry, obstetrics, and surgery are required in 103 of the 109 schools responding. Only five schools reported that all clerkships are considered elective. (52) Students move through their clerkships in groups of three or four (sometimes the group is stable, sometimes shifting with each rotation) for periods of six to eight weeks.

Students are supervised by and learn from house staff (residents and interns) and clinical faculty members. Much of the learning takes place through practical experience, but most rotations include some classroom sessions, reading assignments, and examinations on material. Evaluation is thus a mixture of grades or scores and subjective evaluations of performance by supervising physicians. Personal qualities, character traits, and interpersonal performance become as important as the skills in learning and retaining scientific knowledge to the students' evaluations as promising physicians or ordinary physicians. A number of important shifts account for the difference in experience between pre-clinical and clinical training.

- The termination of experimental and exemplary educational programs
- The loss of student support groups
- The shift from science to craft

- Learning on patients rather than from books
- The beginning of subjective evaluation of student work
- The requirement to specialize

The Termination of Innovative Educational Designs

Exemplary educational programs such as those described in the preceding section cease to be feasible during clinical training because it takes place in a hospital setting. Where medical schools operate and control their own teaching hospitals, control over educational format is theoretically possible, but rare in fact. The institutional requirements of the hospital as an organization are sufficiently strong that it is difficult to alter teaching programs there. Where medical schools do not operate their own hospitals but utilize affiliated hospitals (in some cases quite far away from the medical school itself), control is quite difficult indeed.

When students have grown accustomed to some degree of control over their time in a pre-clinical flexible training program, clinical training can come as a shock. Students are confronted with the scheduling stresses and other rigors of hospital rotation life which may considerably disrupt their lives.

Loss of Student Support Groups

Many of the women we interviewed commented on the valued support they received from other women during pre-clinical training. This often came through formal and informal groups of women who shared their experiences and who studied and socialized together. In the pre-clinical setting, such groups of women could decide together which issues of curriculum, facilities, and treatment to address and how and which ones to leave to a later day or to drop.

The schedules and locales of differing rotations tend to divide women from each other--unless they are of such numbers that there are clusters of them in each rotation. The loss of a group sense is a tangible one for individual women, for they are thrown onto their own devices to handle the range of experiences they encounter. The group as a reality-testing device is no longer available for providing perspective on faculty and student behaviors and attitudes.

In many settings, a student's clinical rotations are established by lottery. That is, s/he is randomly selected to take his/her rotation in a certain order. Some schools have allowed women, and presumably men, too, to petition to take their rotations together. This is an important option, especially in settings where there are so few women that they will be unlikely to be placed in rotation groups together by chance. It can obviate against a sense of isolation.

The Shift from Science to Craft

A profound shift in focus occurs as the students move from the science of pre-clinical training to the craft of clinical training. This is, of course, not an absolute change but still a major change of emphasis. Part of the change is due to a change in faculty.

It has been noted above that students are often selected on the basis of their potential as good science students. These students do well in their classes, a continuation of the pattern they established in undergraduate school. What they had to know and how they were to acquire it were well established. The shift to clinical training can be a severe jolt for some of these students.

Women are more often represented in pre-clinical faculties than they are in clinical faculties. Thus as women students move into clinical training, the sense that they are moving into a definitely male world is heightened.

There is no manual for what is to be learned in clinical training nor how it is to be learned. The students still read and take periodic exams, but they are also judged on performance and how well they utilize their knowledge and/or emulate the house staff. Criteria are hazy, but evaluation clearly has a component of judging how well students "manage" their images, give the impression of being bright, curious, responsible, quick, ambitious, confident with patients and so on.

Learning from Patients Rather than from Books

The prospect of confronting patients is perhaps the primary anxiety of students entering clinical training. Many students express their concern over intruding

on patients, being fearful of patients who are difficult or (for women) who resist having a female physician, and of compelling patients to undergo endless repetitions of history-taking and physical exams so that the student may practice

Most schools do little to prepare students for this experience, but in a very few exemplary programs where special care is taken during the pre-clinical years to deliberately train students in patient contact skills, this seems to result in students approaching clinical training with a good deal less anxiety.

The Beginning of Subjective Evaluation of Student Work

Accompanying the change from an emphasis on science to an emphasis on craft in the transition from pre-clinical to clinical training is the shift to a greater subjective component in evaluation of students. Subjectivity of evaluation is an indispensable part of training people to serve other people, particularly those who are vulnerable due to sickness or injury.

Subjectivity, however, also allows the evaluator a range of bias not possible under objective methods. The bias of clinical faculty against women can have a very damaging influence on women's professional training and confidence. Women may be simultaneously caught between being highly visible and being ignored in clinical training. The feelings and relationships with which women emerge from these experiences into their professional practice may limit them from full participation in the profession.

The Requirement to Specialize

The requirement to specialize becomes a very pressing matter early in, or even prior to, the clinical years. Most schools are encouraging specialty choice earlier and earlier in the student's training. These schools also tend to provide more information and experience at earlier points so that informed decisions can be made. One of the options which schools leave open is the rotating curriculum -- that is, the school provides for rotation through basic medical and surgical services, spending a few weeks in each. The other specialty tracks, leading into research and psychiatry and so on, provide a basic clinical experience but with many electives in specialty areas.

A student's choice of specialty preparation route is relatively deterministic in its effect on later opportunities. Many clerkship and internship opportunities are based on the student's convincing others that s/he is better prepared and more committed to a particular interest than are his/her competitors. The choice of a preparation route is taken to be a significant indicator of that preparation and commitment.

Clinical training represents a sharp departure in experience for all students. Learning in the pre-clinical period is, or can be, largely a confrontation between the student and his/her books. But learning in the clinical years is predominantly a matter of learning through interactions with professionals, peers, and patients. The comments of a woman student articulate this:

> *The thing is that to really learn from someone, especially when everything is a clinical lesson, you have to have some kind of a personal relationship with them so that they're going to bother to explain something to you. They're under no obligation to, and it's very hard. The first time I went to the emergency room a couple of weeks ago, everyone was basically ignoring us. Then one of the residents came up and said, 'Hi, my name's Joe. What's yours?' My first response was to really recoil, and then I realized that he was the first person that was being human to me and saying, 'Hi, want to come over and see this?' (Third year student, female)*

> *A lot of the people who are teaching me just don't seem to be that concerned about explaining to people what's going on. I had a patient who had a gastrectomy and no one had explained to his wife or to the patient what exactly they were going to do. Three days after the operation she asked did her husband have a plastic stomach. Most things aren't that complicated that you can't explain in reasonable terms. (Group interview, third and fourth year, female)*

> *We had a case last night where we had a patient who was sort of subtly going bad on us and then all of a sudden everybody realized he's going bad. And so it was sort of this mass effort, all of a sudden people were shoving IVs in him, putting NG tubes in. And nobody had told the man, look, your x-ray shows this and therefore we're going to have to do such and such. You know, it was just like an attack for being sick. (Group interview, third and fourth year, female)*

Interactions--learning how to behave, how to appear, what to be like--are as important in clinical training and clinical evaluation as is one's ability to acquire and apply knowledge. Women students are keenly aware of this and

find it especially difficult since so many of the interactions they are involved in take account of--and force them to take account of--the fact that they are women. A woman faculty member described the discovery in her clinical training that being a woman makes a difference:

> *It's when you hit the non-subservient role you start to notice what's going on. It's all ok until you go to the operating room and there are two doors: doctors and nurses. Men do a lot of putting their arm around you and saying, 'Listen, dearie, would you do such and such?' The nurses don't seem to mind, but I certainly do. (Faculty, female)*

A woman student described the way that her being a woman is taken into account in small ways every day:

> *On physical diagnosis rounds, they'll do little things like saying to the patient with a little smile, 'I'll let this lady look you over', and the patient gives a little grin. (Third year student, female)*

In some of these interactions, particularly those that appear to be a challenge, women say they have difficulty in knowing how to respond:

> *This one surgeon stood in front of me in the ICU, looked me in the eyes and said, 'You'll notice that all the nurses here are pretty. We only hire pretty girls to work in the ICU'--just to try and get a reaction out of me. (Third year student, female)*

Responding in an unaccommodating way is perceived as a risky undertaking:

> *There's always a fear of repercussions if you respond strongly. I had an experience with a surgeon who referred to me as a chick, and I told him point blank that I never wanted to hear him say that to me again. And afterwards I could sort of contemplate that coming back in a real bad way. (Third year student, female)*

A woman student in a medical school which has an unusually high proportion of women talked about the help it was to have other women and sympathetic peers around in clinical settings.

> *When we go to our clinical site, we have groups of 12. They're either 11 to 1 women to men or 9 to 3 women to men, you know, and so it's in groups with a lot of women*

and just a few men. The men really can see how the doctors are treating us as women and how we react to it and they're right along with us. They can see how blatant it is--they all are much more sensitized to it. (Fourth year student, female)

Women frequently spoke about the pressure they feel to avoid fulfilling what they feel are expectations of them as women--that they aren't strong, can't take it, are cry-babies. In the following excerpt, a woman student describes the anguish of trying not to give up and thus open herself to criticism, and then getting the very criticism she feared:

I was observing this one particular thing being done and it was taking hours and hours and it was a very hot, stuffy room. And I react very poorly to that. It makes me feel faint. And I thought, 'My God, this is it. If I do this it's all over.' But after a while I decided that there are certain priorities. If I stick it out I'm going to drop the tube that I had to hold in a certain direction, and if I did faint the patient was going to get all messed up because I wanted to prove something. So I leaned over to the person next to me and I did that thing, I said, 'Why don't you take over, I feel like I should sit down.' And I sat down. As soon as the procedure was completed there was a whole hubbub over what I had done, and how cute it was that I couldn't take it. And it was all because it was hot--nothing to do with what was being done or my reaction to it. It was all because it was real hot and stuffy in the room. And I felt--I was so angry. I was really just angered. Because it wasn't only men that were acting that way--it was also women that had given me that reaction. And that--you know, sort of like this sort of macho attitude, 'Well, if you're going to be a doctor you have to be able to take it.' And I don't think that's necessarily true. If you feel sick you should say you feel sick. But it's so hard to do that. (Third year student, female)

First encounters with patients are awkward for all students, but women have an added fear regarding whether patients will treat them as doctors. Cause for concern is first presented to them in the traditionally second year course in physical diagnosis, which one faculty member referred to as "Thumping 101". In this setting students spend time learning to do exams on each other, but they often report awkward situations:

In physical diagnosis we have four sections at the beginning where the students do physicals on each other. There were two women and a man in my group. We agreed at the beginning

that we would trade the breast exam for the hernia exam. I don't think he knew what the hernia exam was. So he had done a couple of breast exams on both Joanne and me and got to the last section and we had not yet done the testicular and the hernia exam. We said, 'What about it?' and he said, 'I don't think it's fair.' He had already had our services. We said, 'Look, you agreed you were going to do it.' The instructor, who was a woman, said, 'You agreed, I think it's fair, and we're going to do it.' And it was very professional and we did learn to do the complete exam. (Second year student, female)

Women often report that such situations do not turn out so well and may result in learning losses to them. A woman faculty member, for instance, said:

The first time I passed a catheter on a male patient--I was a resident--was when the patient was unconscious! (Faculty, female)

And a woman student told a story which shows how that can have happened:

We requested in our group that we should learn to practice after we finish with the dummies on real live people and they said, 'Well, you can't do it on patients', and we said we had no interest in doing it on patients. You know, 'There are men and there are women in this group and there's no reason why we shouldn't be able to learn.' The answer to that was, 'Well, here's a speculum, here's the gloves, I'm going to close the door and lock it and you can do whatever you want but I can't deal with it.' And he ran out of the room. And because of that we never learned to do gynecological examinations on women or on anyone, period, but a dummy. (Third year student, female)

Women report relatively few problems in dealing with patients once in clinical training, but incidents do occur and are difficult to negotiate:

Last week I was sent in to do a history and a physical on a 27 year old Black male with sickle cell anemia and he said, 'I'll talk to you, but no physical.' I said, 'But I have to.' 'No physical.' And he won essentially. (Group interview, mixed years, female)

More often, women report that their problem with patients is mainly around being trusted and believed to be the doctor. A woman clinical faculty member had developed a sense of humor about it:

> *I can go through a whole exam, write a prescription, give instructions and then have the patient say, 'When do I get to see the doctor?' It's very funny, really, I mean, you just wonder who they will let do what to them! (Faculty, female)*

The transition to clinical training is especially stressful for students for the very reason that it requires them to begin to make the role transition from student to doctor, to begin to act like a doctor, even though they do not yet have the skills or experience. The transition is made especially difficult for women because assumptions are so frequently made by the social context in which they operate that they are not, in fact, doctors at all, but nurses or technicians.

> *Several times when I've been doing a physical on a person, the patient in the next bed will say, 'Nurse, will you do such and such.' Or the wife of the patient will be on the phone and say, 'I'm sorry, the nurse is still with so and so.' And I just let it slide. (Group interview, mixed years, female)*

The very need to differentiate themselves from nurses in order to get recognition as doctors causes a further conflict for women medical students--how to relate to nurses.

> *One thing is being taken for a nurse and wanting to say, 'I'm not a nurse' without putting down being a nurse, and the other part of it is the resentment on the part of some nurses--you're a woman and what are you doing doing this man's thing. (Group interview, mixed years, female)*

> *I've been careful in what dealings I've had with nurses to respect their position. If they come in to do the blood pressure while I'm doing something, you know, I ask them if they can come back, or, if it's convenient, I tell them what the blood pressure is so they don't have to do it. I haven't had any problems with the nurses. It's more with people mistaking me as a nurse and feeling, 'Oh, not again.' (Group interview, mixed years, female)*

The importance of learning through interaction in the clinical setting makes issues such as separate men's and women's dressing rooms into important issues with serious import for equal learning opportunities. The following exchange from one of the women's group interview is illustrative:

R^1 *Sleeping arrangements is another thing that is a real problem because the male and female medical students sleep in different rooms.*

R^2 *That separation of rooms continues to be a real problem which has not been solved. The class before us had a lot of real issues about it. I mean they really made a big stink and there was a woman who barged into the doctors' room. No women allowed in there.*

I *In which doctors' room?*

R^3 *It's in Surgery. It's in the OR. Women cannot go in there. It's a male dressing room. But they also have coffee and they also sit around and talked about their cases and everything.*

R^2 *They were walking along talking about their cases and she just got sick of having them walk off and leave--*

R^1 *Yeah, she was always left out of things so, whether this was the best move or not is debatable, but by herself she just walked into the male dressing room and changed her clothes in there and--you can imagine--we've been talking about it for the whole year. All she got was proposals and seductive comments from the men in there. (Group interview, third and fourth year, female)*

The clinical training experience, although eagerly awaited by most students, can be a time of new pressures and conflicts for males, but more intensely, for female students. Working directly with patients, being called and expected to act like a doctor, interacting with other health care workers, all involve a new set of behaviors, skills, and expectations a student must learn. To the extent that these behaviors and expectations clash with society's definition of female, women students experience a more stressful adjustment to clinical training than do men.

SPECIALTY CHOICE

Differences in Specialty Choice Among Men and Women

The question of how medical students make their specialty choices is an important one for this study because of the longstanding, and continuing, disproportionate representation of women in the various specialties. (See Table 35)

TABLE 35

DISTRIBUTION OF PHYSICIANS AMONG SPECIALTY GROUPS, BY SEX: DECEMBER 31, 1976

Specialty Group	No. of Women Physicians	% Women of Total Physicians in Specialty	% of All Women Physicians in Specialty	No. of Men Physicians	% Men of Total Physicians in Specialty	% of All Men Physicians in Specialty	TOTAL
			100.0%			100.0%	
General Practice	2,462	4.4%	10.9	53,896	95.6%	18.2	56,358
Internal Medicine	3,242	5.6	14.4	54,617	94.4	18.4	57,859
Surgery	855	1.2	3.8	69,154	98.8	23.4	70,009
Ob/Gyn	1,421	7.2	6.3	18,349	92.8	6.2	19,770
Pediatrics	4,247	21.3	18.8	15,671	78.7	5.3	19,918
Psychiatry	3,209	13.1	14.2	21,241	86.9	7.2	24,450
Radiology	754	5.3	3.3	13,585	94.7	4.6	14,339
Anesthesiology	1,655	14.3	7.3	9,902	85.7	3.3	11,557
Pathology	1,435	13.2	6.4	9,471	86.8	3.2	10,906
Other	3,283	9.8	14.6	30,250	90.2	10.2	33,533
TOTAL	22,563[a]	7.1%		296,136[b]	92.9		318,699

[a] *Excludes 4,471 physicians (481 not classified, 3,539 inactive and 451 address unknown).*

[b] *Excludes 21,653 physicians (3,048 not classifies, 15,849 inactive, and 2,756 address unknown).*

SOURCES: Betty Vetter/Scientific Manpower Commission/Washington D.C., December 31, 1971.

Roughly equal proportions of male and female physicians participate in the patient-oriented, primary care specialties of general practice, internal medicine, obstetrics/gynecology, and pediatrics--50.4% versus 48.1%. But general practice and internal medicine are outranked among women by pediatrics and psychiatry and among men by surgery.

There is evidence that specialty preferences are changing, that young practitioners and students have different preference patterns from practitioners as a whole, and that preference patterns of women compared to men are changing. The direction and magnitude of these changes are, however, quite unclear. Gough (45), in a 1974 survey of young practitioners (mean age of male respondents was 33.51, of female respondents, 31.90) who had graduated from the University of California, San Francisco Medical Center, and third year students at UCSF, found that the personal preference rankings of patient-oriented specialties by men and women were roughly similar. (45:586) His results were as follows:

Male Physicians	Female Physicians	Male Students	Female Students
Internal Medicine	Pediatrics	Internal Medicine	Internal Medicine
Family Medicine	General Practice	Family Medicine	Family Medicine
General Practice	Family Medicine	Pediatrics	Endocrinology
Cardiovascular Diseases	Internal Medicine	General Practice	General Practice
Pediatrics	Obstetrics/ Gynecology	Cardiovascular Diseases	Cardiovascular Diseases

Gough did find some difference between men's and women's other specialty preferences. Men assigned significantly higher ratings to otolaryngology, abdominal surgery, cardiovascular surgery, colon and rectal surgery, thoractic surgery, traumatic surgery, and urology. Women scored significantly higher than men only on obstetrics and gynecology. These findings suggests that some shifts in specialty choice among men and women may be taking place. It appears that women's preference for obstetrics/gynecology is increasing relative to men's and that their relative preference for pediatrics and psychiatry may be decreasing (see Table 35). Relatively little change appears to be taking place, though, in the relative preference for, and choice by, women of surgical specialties.

Another recent (September 1975) study of Harvard Medical School students suggests different set of trends as shown in Table 36. Approximately 75% of both the men and women fourth year students' current choice of medical specialty was one of the primary care specialties: internal medicine, obstetrics/gynecology, pediatrics, public health, family practice, and general practice. Among the primary care specialties, however, men were heavily concentrated in internal medicine and women in pediatrics and to a much greater degree than is reflected in current practice patterns. The difference among men and women in their choice of psychiatry as a specialty is relatively small, but differences in preference for surgery are marked (see Table 36, page 117).

Any shifts in specialty preference among young physicians will be slow to change the overall profile of the profession. The comparison of specialists in 1963 and 1973 in Table 37, page 118, shows a marked decrease in general practitioners among both men and women with only slight increases in other specialties during the ten year period.

Though much of the evidence on changing specialty preferences among men and women is inconclusive, it is consistently found that women rarely enter or express a strong preference for surgical specialties. And although the specific differences among men's and women's specialty preferences differ from study to study, the existence of major differences is consistently found.

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TABLE 36

SPECIALTY CHOICE

	HMS IV WOMEN	HMS IV MEN	HMS IV TOTAL
Internal Medicine	6(24%)	40(52.7%)	46(45.5%)
Obstetrics-Gynecology	1(4%)	2(2.6%)	3(3%)
Ophthalmology	2(8%)	1(1.3%)	3(3%)
Pathology	1(4%)	1(1.3%)	2(2%)
Pediatrics	10(40%)	8(10.6%)	18(17.8%)
Psychiatry	2(8%)	1(1.3%)	3(3%)
Public Health	2(8%)	0	2(2%)
Surgery	1(4%)	13(17.1%)	14(13.8%)
Family Practice	0	6(7.9%)	6(5.9%)
General Practice	0	1(1.3%)	1(1%)
Endocrinology	0	1(1.3%)	1(1%)
Immunology	0	1(1.3%)	1(1%)
Rheumatology	0	1(1.3%)	1(1%)
TOTAL	25(100%)	76(100%)	101(100%)
(no answer)	(1)		(1)

SOURCES: *Joint Committee on the Status of Women of Harvard Medical School, Report of the Student Task Force (Harvard Medical School) of the Joint Committee on the Status of Women, Cambridge, Massachusetts: Harvard Medical School, Mimeo, September, 1975, Table 4, page 3.*

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TABLE 37

DISTRIBUTION OF PHYSICIANS BY SPECIALTY: 1963 and 1973
(BY SEX)

Specialty	1963		1973	
	% of females	% of males	% of females	% of males
Anesthesiology	6	2	7	3
General Practice	20	28	10	17
Internal Medicine	10	13	13	15
OB/GYN	6	6	6	6
Pathology	4	2	6	3
Pediatrics	17	4	18	5
Psychiatry	12	5	14	7
Radiology	2	3	3	4
All other	19	32	19	36
	100	100	100	

SOURCE: Maryland Pennell and Shirlene Showell, Women in Health Careers, Chartbook for International Conference on Women in Health, Washington, D.C.: The American Public Health Association, June, 1975. Adapted from Table 18, page 38.

Explanations of Differences in Specialty Choice Among Men and Women

Explanations given for the patterns of women's medical specialty choice fall into four major categories.

- Women are naturally suited to certain specialties and not to others. (They are good with children and thus go into pediatrics; they are nurturant and interpersonally oriented and thus go into psychiatry; they cannot make the hard decisions required in surgery.)
- Women choose specialties where commitment and time can be limited to allow for family responsibilities. (They chose pathology and radiology because distance from patients allows time control.)
- Women choose specialties on the basis of a social image that is compatible with femininity. (They choose pediatrics because pediatricians are thought to be gentle and nurturant; they avoid surgery because surgeons are thought to be aggressive and dominating.)
- Women choose specialties on the basis of experiences with the specialty, skills relevant to the specialty and with specialists. (They choose pediatrics because their clerkship experience is positive and encouraging; they avoid surgery because their experience with surgery and surgeons is negative and discouraging.)

The first explanation was given primarily by male faculty and students we interviewed as reasons why women should not enter certain specialties, but it was not mentioned by women themselves as reasons for their choices. The other three were mentioned by women in discussing how and why they chose their specialty.

Compatibility with Family Responsibilities

Many women students, writers, and researchers have suggested that women doctors tend to manage their professional careers by selecting for work specialties and practice types which are least likely to offer work duties incompatible with women's traditional responsibilities and tasks. This observation is supported statistically for specialties such as anesthesiology and pathology where hours of work are relatively controllable and where a somewhat higher proportion of women physicians than men are represented.

Many of the women we spoke with cited the length of specialty training and the hours of work required of the practicing specialist as factors in their specialty choice. The following interview excerpts are illustrative:

> *My age is a factor in choosing a specialty. If the sky is the limit, I would choose pathology or internal medicine. However, since time is of the essence, maybe I will go into family practice, the Public Health Service, a neighborhood clinic, preventative medicine, or something like that. (Fourth year student, female)*

> *Surgeons here often work 60 out of every 72 hours. Do I want to do it? It's your choice. You can't have kids, if you're a woman in surgery. You can do it, the question is if you want to live with it. (Third year student, female)*

> *I dropped my surgical internship for pathology because I didn't want a life of continuing time commitments. Surgery is not the problem, it's what's left of your life. I realized I went into surgery to prove to myself and others that I could do it. I was as chauvinist as those who wanted to keep me out. Now I have my own time, I can read the paper, have a social life. It's incredible. And I'm more accepted by men. (Pathology resident, female)*

> *When you think of surgery you think of the Mass. General type of surgery where you're all on your feet 20 hours a day, on call every other night. It's not very appealing, especially to women who want other things, who want to have half of the responsibility for the family. It's not very appealing. (Group interview, mixed years, female)*

> *I've thought of going back to research, but research is a very high pressure situation. (Second year student, female)*

But the choice of a specialty as a function of a woman's requirements for working conditions compatible with family responsibilities is only one of several factors. Working conditions are rarely cited as a factor for women's frequent choice of psychiatry. Though women are overrepresented in pathology and anesthesiology, these specialties account for only 13% of women practitioners in 1973. Nearly half of all women physicians are in specialties where heavy and unpredictable time demands are the norm--10% in general practice, 13% in internal medicine, 6% in obstetrics/gynecology 18% in pediatrics, totalling 47% in 1973. (See Table 37, p. 120.) A woman's assessment of her own situation and abilities to balance work and family responsibilities and the relative attraction of other specialties

affect how much weight is given to this factor. In the above series of interview fragments, excerpts were chose for their mention of training requirements and working conditions. Many respondents talked about these considerations by way of a negative reference to surgery. The following discussion focuses further on surgery not by our selection, but as a result of how our respondents most often talked about the process of specialty choice.

Images and Believes about Specialties

A study by Zimet and Held (99) of the development of views of specialties during the four years of medical school showed that there is a high degree of consensus among medical students about what specialties and specialists are like, and that these views shift during medical school and correlate with actual specialty choices made. Though Zimet and Held's research was limited to one cohort of students in one medical school and to males, their findings are supported by several other studies. They found that the highest status was attributed to surgery and internal medicine and the lowest to family practice and psychiatry--with pediatrics in the middle. But social attractiveness ranking put family practice and pediatrics highest followed by internal medicine, psychiatry, and surgery. When asked about whether specialists are similar to oneself, most students saw themselves as being similar to a family practitioner--that is, "warm", "person-oriented", and "concerned"--regardless of their actual specialty choice.

Thus students assigned high status to surgeons, saw them as as arrogant, cold, and impoersonal but defined themselves as warm and concerned even if their specialty choice was surgery. Students assigned low status to family practice but valued the traits of the family practitioner. Psychiatry was anomalous. Students choosing psychiatry defined it as high in status and social attractiveness even though students not chcosing it defined it as low in both dimensions.

Internal medicine was ranked by entering students as middle to high on status, social attractiveness, and similarity to self, but its rank increased over the medical school years, as did the frequency with which it was actually chosen as a specialty. Pediatrics, on the other hand, steadily lost in rankings and

in selection by students. Zimet and Held speculate that students who are strongly influenced by the believed social attractiveness of pediatrics gravitate to family medicine which is ranked higher on this dimension, while those for whom status is more important gravitate to internal medicine. (99:165)

One of the women students to whom we spoke gave a capsule summary of her views of several specialties. Her comments fit well with Zimet and Held's findings. She valued patient contact, but prefered internal medicine to pediatrics because the parents represent problematic patient contact. And she had a disdain for psychiatry:

> *I like internal medicine, even though it has long hard hours. I want to be a practitioner. It gives you a greater feeling for patients. You see them over a long time, get clued into problems. It's hard to say why I like it. I don't like pediatrics. I like kids but would kill some of the parents. I don't like psychiatry or agree with its concepts. I don't like being a 'paid friend'. I like radiology, to be knowlegeable about disease, but there is not direct patient care. Pathologists deal only with tissue not whole patients. We need them all, but I don't know which I should be. (Third year student, female)*

Another woman student we interviewed was a good example of what Zimet and Held would classify as a student who values the social attractiveness of a specialty over its status:

> *I like working with kids and I think I'd like pediatrics. I told that to the doctor I work with and he kind of looked at me and said, "Why would you want to go into pediatrics? You can advance your career much more in medicine because there are fewer women in it." And it just took me aback because I don't think of it that way. I've also thought of medicine, but I'd prefer working with kids.*

And the comments of a second year student (who has not yet had clinical experience) were illustrative of widely held beliefs about the social attributes of surgeons:

> *I've known quite a few surgeons and enoticed trends in their personalities. I don't want to work with surgeons. I think they are extremely intense. I just don't feel a desire. (Second year student, female)*

The images held about various specialties do seem to be potent influences, then, in the specialty choices students make. In our data, however, the most frequently mentioned factor in specialty choice was the actual experience that students had in clerkships and with specialists.

Experience with the Specialty and Specialists

A study of determinants of career choice among second year medical students conducted by Weinstein and Gipple (96) showed that students' experience prior to medical school is important in both their choice of specialty and their degree of certainty about specialty choice. Students who had had more patient contact and less experience in research before medical school were more likely to favor family physician specialties, while those with more research experience were more likely to be oriented to academic/scientific specialties. Weinstein and Gipple also reported that students who were certain of their specialty choice more often reported that their advisors had been helpful towards them. Though Weinstein's and Gipple's work is an attempt to correlate background variables with specialty choice, their findings may be interpreted as evidence that actual experiences and encouragements may be powerful influencing factors in students' choice of specialty.

This line of explanation is strengthened by the findings of a study conducted by the Joint Committee on the Status of Women at Harvard Medical School. (51) This study asked an open-ended question of fourth year students: "What were the factors most important in influencing your choice of hospital for post-graduate training?" (See Table 38 below.)

TABLE 38

FACTORS INFLUENTIAL IN CHOICE OF HOSPITAL FOR POST-GRADUATE TRAINING
(HMS IV RESPONDENTS)*

FACTORS	WOMEN HMS IV N = 26	MEN HMS IV N = 76
Positive experiences with staff.....[1]	54%	
Atmosphere/Ambience.....[1]		46%
Quality of Program.....	50%	59%
Location.....	46%	61%
Patient population.....	19%	18%
Schedule.....	12%	14%
Reputation.....	0	18%

* Multiple responses; percentages do not add to 100%

Source: *Joint Committee on the Status of Women of Harvard Medical School, Report of the Student Task Force (HMS) of the Joint Committee on the Status of Women. Cambridge, Mass.: Harvard Medical School, Mimeo, September 1975, Appendix A-2.*

[1]It was the author's opinion that these two categories were equivalent across sex (personal conversation).

Third and fourth year women students were asked to rate (excellent, good, fair or poor) their clinical rotations with regard to the atmosphere toward women and women medical students. Table 39 shows the frequency with which excellent and poor ratings were assigned to rotations in specialties and the proportion of fourth year students expressing an actual choice of each specialty.

TABLE 39

RATINGS OF CLERKSHIPS AND ROTATIONS, BY SPECIALTY
(HMS III AND IV WOMEN RESPONDENTS)
AND HMS IV WOMEN'S SPECIALTY CHOICE

SPECIALTY	EXCELLENT RATING	POOR RATING	SPECIALTY CHOICE**
Pediatrics	64%	0%	40%
Radiology	48%	0%	0%
Psychiatry	57%	4%	8%
Dermatology	24%	0%	0%
Pathology	60%	5%	4%
Neurology	37%	11%	0%
Infectious Diseases	56%	0%	0%
Medicine	23%	8%	24%
Surgery	21%	27%	4% *
ITC	23%	13%	
Orthopedics	37%	37%	*
Ob/Gyn	20%	50%	4%

* Includes orthopedics

** Specialty choices not included in clerkship rating date: Ophthalmology, 8%; Public Health, 8%.

SOURCE: Joint Committee on the Status of Women of Harvard Medical School, Report of the Student Task Force (HMS) of the Joint Committee on the Status of Women. Cambridge, Mass.: Harvard Medical School, Mimeo, September, adapted, pages 3 and 9, 1975.

Clearly many factors are at play in the above data. Some highly rated rotations were not chosen at all, or rarely, as specialty areas (radiology, psychiatry, pathology, infectious disease), but it is interesting that these are some of the very specialties in which women have traditionally participated relatively frequently. Medicine was rated relatively indifferently but was chosen most often only after pediatrics. The two ends of the scale do suggest some connection between the experience in clerkship rotation and choice of specialty. Pediatrics, most often rated "excellent" of all rotations, was the most often chosen specialty. And the rotations receiving the highest proportion of "poor" ratings--obstetrics/gynecology, surgery, and orthopedics--were rarely chosen as careers.

One of the women residents we interviewed was explicit about the influence on her choice of the specialists she encountered in training:

> *The choice about specialty and where we practice is very irrational. As students we associate aspects of the field with the personality of the person who teaches it, whether they're dynamic, if they treat us humanely. There may be very little relationship to what he actually does in practice or the life he may have. A model like this can be any figure one runs across, faculty member, volunteer, anyone. That probably accounts for so much switching of interns and residents. (Resident, female)*

A fourth year woman student talked about the importance of working with other women in pediatrics:

> *I know there are too many women in pediatrics, but I like it. Most of the residents in ped are women, I like to work with them. (Fourth year student, female)*

Third and fourth year women students often talked about the experiences they had had in surgery rotations and the influence on their specialty considerations:

> *I thought a lot about surgery. I decided against it because the training is so long and because of the stuff you have to put up with. In surgery you don't question anything. If the guy says, 'Cut off the patient's head,' you cut off his head. In other areas of medicine, people argue a lot, but not in surgery. (Fourth year student, female)*

I think a lot of what that is is the personality of the surgeons. The locker room atmosphere--the football team. And women surgeons can't go into the same locker room. (Group interview, mixed years, female)

Surgeons treat us the worst. 'Arrange your instruments as you would in your kitchen.' 'You're holding those scissors like a housewife.' Women are told, 'You can't get an A in surgery.' Well, without an A in surgery, you can't get an internship in surgery. (Fourth year student, female)

[Surgeons don't] like women, they don't want women around except as nurses. And they have a very aggressive game they play. Do unto others as was done to you. And most women do not like their aggressive, nasty, callous way of treating each other. I was nearly reduced to tears once in an operating room watching an orthopedic attending berate a chief resident while he was doing a procedure. I just thought he used the most vile, insensitive language and intonations that was totally uncalled for in terms of a teaching experience. I don't respond to being yelled at and screamed at and called an idiot in order to learn something. And the chief resident noticed that I was getting really upset and that I didn't like the way he was being treated and says, 'You know, it doesn't bother me. I'm used to it; that's the way he is and that's the way I learn; and that's the way surgeons learn.' And most, in general, women do not like that sort of thing. So they're not going to go into it. It's just not worth it to subject yourself to that in order to finish, and then again they're going to be your colleagues when you finish, too. (Fourth year student, female)

An exchange in one of the group interviews expresses the frequent argument among women about experiences in surgery. The laughter and chiming in during this exchange expresses the tension around this topic:

R^1 *Good experiences <u>do</u> tend to lead you in certain directions. I wouldn't want to be a surgeon because I would not want to associate with surgeons.* [Laughter, all chime in.]

R^2 *That's true, that's true.*

R^3 *I think if you have a good experience you're more likely to go on to that field. I knew just from seeing surgeons in the hall that I was going to hate surgery.* [Laughter]

R^4 *It's interesting, though, I've been told on some services not to wear long dresses, but the surgeons haven't ever said anything.*

R^2 *That's because surgeons ignore everything they can possibly ignore.*

R^1 *Surgeons ignore <u>everything</u>.* [Laughter]
(Group interview, third and fourth year, female)

Occasionally, women reported positive experiences in surgery. And it is these positive experiences, and the ensuing positive responses, that provide the most convincing evidence of the potency of clinical experience in influencing students' specialty decisions. A positive experience, an encouraging surgeon, can counteract strong stereotypes and widely known experiences:

> *There is one fantastic man in surgery, fantastic as a doctor, a person, and a researcher. That's one of the reasons I'm going into surgery. (Fourth year student, female)*

A minority woman surgery student noted that in her second year she visited a large general hospital, staffed by and serving the same racial minority, in order to explore the possibility of doing a medicine externship there. Her friend there left her with another friend, a resident in surgery. She went with him on grand rounds in surgery, and the chief resident explained things clearly so that she could easily understand it. This experience changed her mind about surgery. The resident introduced her to the department head and then she followed the resident and the interns around to "see what I could do, to do what I could do, and everybody liked me."

> *I have had nothing but positive reactions from 30 different persons in surgery and invitations from white department heads and residents who say that I'm better than some interns. The only questions some ask is 'Can you handle it?' 'Are you aggressive enough?' Sure I can. (Fourth year student, female)*

<u>Natural Inclinations and Abilities</u>

Though women rarely explain their specialty choice in terms of their natural abilities, inclinations, and inabilities, physicians in the training setting often do. Our data are replete with examples of men's beliefs

that women are "better with children" and the like. The following illustrative example will suffice:

> *In fields such as surgery, the argument against women that was used was that of physique, strength, size, and stamina. And urology, women were kept at arms length because it deals with external genitalia. But that's changing. But male patients wouldn't go to a female doctor, that's the main thing. But of course, two-thirds of urology is entirely female in patient structure. Now some specialties are fine. Plastic surgery is fine, for instance, and ophthalmology. You would have thought that these would be easy for women to get into. They are gentle and refined, not like orthopedics or even neurosurgery. (Clinical faculty, male)*

Prevailing stereotypes of "appropriate" specialties for women potentially operate in three ways. They may operate directly to deny admission of women to training programs; they may operate indirectly to convince women that there is no need to apply; and they may operate subtly to make women feel that the specialties in question are not ones which appeal to them. In none of our field interviews was there any admission or suggestion that women are currently being denied admission to training programs because of their sex. Many respondents did acknowledge, however, that such overt behavior had been a fact in the past. The following comments from two clinical faculty members are illustrative:

> *There were 11 women out of 120 in my medical school class in the late 50s. I wasn't aware of any prejudice. The first sign was when I applied to three internship programs. Two of them said to me in so many words, 'We only take one woman a year.' (Clinical faculty, female)*

> *I've known many OB/GYN programs which in the past would absolutely not accept women in residency programs. The schools I'm thinking of do now have women. (Clinical faculty, male)*

The comments of a chief administrator are particularly interesting in this context. He starts by acknowledging that women were not admitted to certain specialties in the past but then goes on to say, unaware of the apparent contradiction, that part of their not being admitted was the fact that they "didn't envision themselves in that role":

> *I don't doubt that it has been true, but it's rapidly diminishing. When I was in school, in certain departments it was a fact that women were not admitted. I think part of it was that they just didn't envision themselves in that type of professional role, so that how much represented numbers, how much prejudice, how much self-exclusion isn't clear. (Chief administrator, male)*

If it is no longer true that women are not admitted to certain specialty training programs because they are women, it is still the case that knowledge of past realities influences women's sense of their opportunities in those specialties. As one woman student put it:

> *There is a female resident here in surgery, but if you look at all the data and all the studies that have been done, the number of women going into surgery, it's very discouraging. (Second year student, female)*

Women often do choose specialties where work requirements are relatively compatible with family obligations in slightly higher proportions than do men, but their participation in primary care, "on-call" specialties is nearly equal to men's and is certainly frequent enough to belie assumptions that women cannot manage high stress and high demand specialties. The evidence from this study and others show that experiences in early clinical training are influential, and that experience in "female" specialties like pediatrics tend to be positive and encouraging while experiences in "male" specialties such as surgery are very often negative and discouraging. These influences seem to explain how women make their specialty choices.

INTERNSHIP AND RESIDENCY

Overview

Some postgraduate work is required of all physicians before they can acquire full practicing status. Until quite recently, the pattern was to take a one-year internship (after which non-specialized practice could be begun), and usually to continue training in a specialty area in a residency program. Sub-specialties often required further postgraduate fellowship training. Over the past several years, the internship has come to look more and more like the first year of residency--that is it has provided experience primarily in the specialty area rather than relatively brief experiences to all of the major areas of medical practice. As of June 1975 this practice was recognized formally and the internship year is now coordinated with residency programs as the first year of a continuum of graduate education. Table 40 shows the decrease between 1964 and 1974 in the proportion of rotating internships with no major emphasis offered as compared to the increase in straight internship programs offered (training in one specialty area) and rotating internship with an emphasis on a specialty. (See Table 40.)

TABLE 40

TYPES OF INTERNSHIP PROGRAMS OFFERED 1964-1974

ACADEMIC YEAR	TYPES OF PROGRAMS								TOTALS
	ROTATING--NO MAJOR EMPHASIS		ROTATING WITH EMPHASIS ON A SPECIALTY*		STRAIGHT		FAMILY AND GENERAL PRACTICE		
	#	%	#	%	#	%	#	%	
1964 - 1965	658	50	189	14	467	35	14	1	1,328
1965 - 1966	641	45	251	17	531	37	17	1	1,440
1966 - 1967	568	24	1,211	51	582	24	17	5	2,378
1967 - 1968	563	20	1,502	54	687	25	16	-	2,768
1968 - 1969	581	21	1,504	54	703	25	-	-	2,788
1969 - 1970	504	17	1,675	57	714	25	29	1	2,922
1970 - 1971	523	17	1,665	53	963	30	-	-	3,151
1971 - 1972	499	15	1,737	53	1,018	31	-	-	3,254
1972 - 1973	459	15	1,562	54	892	31	-	-	2,912
1973 - 1974	421	19	948	43	835	38	-	-	2,204

**Listed in tables previous to 1966-67 as "mixed" internships.*

SOURCE: Leonard D. Fenninger and Rose H. Tracy, "Graduate Medical Education", Journal of the American Medical Association Supplement, January 1975, volume 231, page 35.

Competition is keen for positions in certain prestigious training sites, but the overall number of internship positions available exceeds the number of students seeking them. Thus, although enormous pressure and anxiety surrounds getting the "right" internship, all medical students are assured of getting one somewhere. (See Table 41 below.)

TABLE 41

—Number of Internships, 1963-1972

	Number of Hospitals	Number of Internship Positions Offered	Number of Internship Positions Filled	Percentage of Positions Filled
1963-1964	765	12,229	9,636	79
1964-1965	757	12,728	10,097	79
1965-1966	772	12,954	9,670	75
1966-1967	816	13,569	10,366	76
1967-1968	853	13,761	10,419	76
1968-1969	821	14,112	10,464	75
1969-1970	900	15,003	10,808	72
1970-1971	896	15,354	11,552	75
1971-1972	797	15,422	12,066	78
1972-1973	883	13,650	11,163	82

SOURCE: Leonard D. Fenninger and Rose E. Tracy, "Graduate Medical Education", Journal of the American Medical Association Supplement, January 1975, vol. 231, p. 1.

Though a surplus of internship positions exists in all specialties, there is a good deal of variation among fields in the degree to which supply exceeds demand, as Table 42 shows. Table 42 also elaborates the data in Table 40. Table 40 shows a steep increase in the proportion of rotating internships with emphasis on specialty offered in 1966-67 which holds steady and declines in 1973-74; and it shows a drop in proportion of straight internships offered in 1966-67, climbing steadily through 1973-74, and a sharp decrease in proportion of rotating internships with no major emphasis offered. Table 42 below indicates that demand is in line with shifts in supply patterns. In 1972, 80% of the rotating with no major emphasis positions were filled, 78% of the rotating with major emphasis positions, and 85% of the straight positions.

TABLE 42

GRADUATE MEDICAL EDUCATION

Number of Internships, by Type of Service

Type of Internship	Affiliated Status	No. of Approved Programs	Number of Internships: Total Positions Offered Sept. 1, 1972	Number of Internships: Total Positions Filled Sept. 1, 1972	Number of Internships: Positions Vacant Sept. 1, 1972	Number of Internships: Percentage Filled	Number of Interns on Duty: Graduates U.S., Canada Sept. 1, 1972	Number of Interns on Duty: Foreign Graduates Sept. 1, 1972	Number of Interns on Duty: Percentage Foreign Grads. in Filled Positions	Total Internship Positions Offered 1974-1975
ROTATING— NO MAJOR EMPHASIS:	Affiliated	322	2,403	1,910	493	79	1,014	896	47	1,984
	Non-Affiliated	137	1,142	917	225	80	111	806	88	1,018
	Total	**459**	**3,545**	**2,827**	**718**	**80**	**1,125**	**1,702**	**60**	**3,002**
ROTATING— MAJOR EMPHASIS ON: Internal Medicine	Affiliated	250	1,046	849	197	81	570	279	33	864
	Non-Affiliated	72	261	228	33	87	50	178	78	250
	Total	**322**	**1,307**	**1,077**	**230**	**82**	**620**	**457**	**42**	**1,114**
Surgery	Affiliated	254	912	733	179	80	415	318	43	867
	Non-Affiliated	76	289	240	49	83	51	189	79	286
	Total	**330**	**1,201**	**973**	**228**	**81**	**466**	**507**	**52**	**1,153**
Obstetrics-Gynecology	Affiliated	169	379	296	83	78	179	117	40	330
	Non-Affiliated	42	77	54	23	70	9	45	83	63
	Total	**211**	**456**	**350**	**106**	**77**	**188**	**162**	**46**	**393**
Pediatrics	Affiliated	150	334	273	61	82	175	98	36	273
	Non-Affiliated	31	40	28	12	70	9	19	68	37
	Total	**181**	**374**	**301**	**73**	**80**	**184**	**117**	**39**	**310**
Pathology	Affiliated	101	117	71	46	61	56	15	21	99
	Non-Affiliated	20	21	14	7	67	4	10	71	16
	Total	**121**	**138**	**85**	**53**	**62**	**60**	**25**	**29**	**115**
Psychiatry	Affiliated	99	228	148	80	65	128	20	14	202
	Non-Affiliated	14	15	10	5	67	5	5	50	9
	Total	**113**	**243**	**158**	**85**	**65**	**133**	**25**	**16**	**211**
Radiology	Affiliated	96	107	72	35	67	57	15	21	97
	Non-Affiliated	22	24	10	14	42	2	8	80	22
	Total	**118**	**131**	**82**	**49**	**63**	**59**	**23**	**28**	**119**
Anesthesiology	Affiliated	100	173	113	60	65	93	20	18	156
	Non-Affiliated	18	15	10	5	67	2	8	80	12
	Total	**118**	**188**	**123**	**65**	**65**	**95**	**28**	**23**	**168**
All of Above Specialties	Affiliated	40	13	13	..	100	13	..	..	438
	Non-Affiliated	8	..	..	..	..	..	..	..	113
	Total	**48**	**13**	**13**	**..**	**100**	**13**	**..**	**..**	**551**
Total Rotating (Major Emphasis)	Affiliated	1,259	3,309	2,568	741	78	1,686	882	34	3,326
	Non-Affiliated	303	742	594	148	80	132	462	78	808
	Total	**1,562**	**4,051**	**3,162**	**889**	**78**	**1,818**	**1,344**	**43**	**4,134**
STRAIGHT Internal Medicine	Affiliated	278	3,121	2,810	311	90	2,423	387	14	3,233
	Non-Affiliated	33	180	132	48	73	70	62	47	181
	Total	**311**	**3,301**	**2,942**	**359**	**89**	**2,493**	**449**	**15**	**3,414**
Surgery	Affiliated	210	1,408	1,163	245	83	946	217	19	1,242
	Non-Affiliated	31	101	52	49	51	14	38	73	105
	Total	**241**	**1,509**	**1,215**	**294**	**81**	**960**	**255**	**21**	**1,347**
Pediatrics	Affiliated	114	713	659	54	92	575	84	13	..
	Non-Affiliated	5	27	21	6	78	16	5	24	..
	Total	**119**	**740**	**680**	**60**	**92**	**591**	**89**	**13**	..
Pathology	Affiliated	104	254	170	84	67	125	45	26	2
	Non-Affiliated	5	13	3	10	23	..	3	100	..
	Total	**109**	**267**	**173**	**94**	**65**	**125**	**48**	**28**	**2**
Obstetrics-Gynecology	Affiliated	94	211	148	63	70	120	28	19	229
	Non-Affiliated	18	26	16	10	62	7	9	56	42
	Total	**112**	**237**	**164**	**73**	**69**	**127**	**37**	**23**	**271**
Total Straight	Affiliated	800	5,707	4,950	757	87	4,189	761	15	4,706
	Non-Affiliated	92	347	224	123	65	107	117	52	328
	Total	**892**	**6,054**	**5,174**	**880**	**85**	**4,296**	**878**	**17**	**5,034**
Grand Totals	Affiliated	2,381	11,419	9,428	1,991	83	6,889	2,539	27	10,016
	Non-Affiliated	532	2,231	1,735	496	78	350	1,385	80	2,154
	Total	**2,913**	**13,650**	**11,163**	**2,487**	**82**	**7,239**	**3,924**	**35**	**12,170**

Source: Leonard D. Fonninger and Rose H. Tracy, "Graduate Medical Education," Journal of the American Medical Association Supplement, January 1975, vol. 231, p. 2.

Postgraduate training periods vary in length considerably, from one to seven years. They may be taken at the same clinical site where training has already been done or elsewhere. Similarly, successive internship and residency years may be taken at different sites, especially if the training specialty changes.

Under current licensing requirements, 39 states require only one year of post-medical school education: only New Mexico requires periodic re-licensing through participation in continuing medical education.

> A recent report of the Committee on Goals and Priorities of the National Board of Medical Examiners recommends a change in the licensing process that would (1) permit a physician to practice under supervision after medical school--that is, during specialty training--through the use of a limited license; (2) permit independent (unsupervised) practice after completion of specialty practice; and (3) reevaluate clinical competence at periodic intervals through recertification exams that might become a part of formal relicensing.
>
> The changes proposed to the National Board reflect two realities: (1) One year of training after medical school is not sufficient to prepare a physician for independent practice; and (2) the great majority of graduates of U.S. medical school are, in any case, taking training beyond the internship. These are realities not only for specialists, but for the most generalized of primary care physicians. One now takes specialized training to generalize... (30:33)

The Selection Process

Admission to postgraduate training is quite similar to that of original admission to professional school. The applicant must choose a specialty, must scout the available training site prospects, must develop supports to his/her application, must accomplish much paperwork within fairly tight schedules, and so on. Similarly, the training site must establish how many students of what type in each specialty it will accept, may or may not advertise key facets of the institution, must narrow an ever-increasing number of applicants down to manageable size, must interview them, and must admit then.

The institutional world, however, is somewhat more complex than that of the professional school. Postgraduate training sites vary considerably; they may be public or private hospitals, university or free-standing, and so on.

Their relationship with students is, in addition to being that of master to apprentice, also that of employer to employee. Many sites look to their trainees as replacements for hospital staff and for partners to attending staff. These sites oftentimes provide the major entry for new professionals into permanent professional networks and specialty certification.

The selection of interns is a serious matter for training sites. The quality they get and produce will reflect on the reputation of that site in the community and beyond, so that selection is inextricably interwoven with aspects of the fiscal future of that site.

Decision makers in the training site are consequently careful about intern and resident choices and aware of the difficulties they face in making them.

> *Since the health resources are limited, we must select students wisely. There seem to be no good criteria for selection. Most of them end up being artificial, arbitrary, and irrelevent. (Director of medical education, male)*

Much like the schools which must differentiate among a large number of applicants most of whom may be qualified, the training sites must choose among another large group, all of whom may be qualified. The training sites, too, must fall back on test scores, letters of recommendation, level of preparation, interviews, and so on. In selecting interns and residents, each field or subfield within medicine seeks not only the best applicants but those who may most aggressively further this specialty within the medical world.

> *We want our graduates to be leaders in their communities and in their specialty. The track record of women is unclear. I don't know what I would feel if all of my six residents were women. Women tend to drop out and then come back, but in a different way. A lot of it depends on younger women not planning to have children. This may lead to a change in the commitment to women in our program. I hope I am not being bound by views from the past. (Director of medical education, male)*

Women students are seen to have changed.

> *Women today are more well-rounded, socially, intellectually, and physically. They do not have to make trade-offs today,*

they're not so defensive or malcontented or separate. We are not sensitive to any special problems they have as women, but rather as interns and residents, such as their problem of feeling unsure, overworked, and having an uncertain future. (Department chairman, male)

Recruitment and selection is conducted by individual departments in most instances. The number of students to be selected is determined by justifications based on need, money, patient load, quality of education being offered, and the quality of care being provided to patients.

In different sites and different specialties, a pyramidal structure exists. That is, there are fewer residency positions in a given field open than there are internships. Thus, if one enters a surgical internship, there may be increased competition for a residency due to fewer available surgical slots. As a consequence, there is much movement of students between internship and residency. It is at this point, too, that new professionals switch from one specialty to another.

Changes of specialty between internship and residency--or at any point--are a source of concern to the training institutions. Commitment and dedication are valued traits per se, but switches are also perceived to be expensive in terms of resources expended on students who move to other areas and in terms of catching-up students who move in from other specialties. The system is slowly changing to make switches of specialty more difficult. The move away from rotating internships with no major emphasis, cited above, has the result of forcing an earlier and less revocable specialty decision. In many locales, no matter what form of internship is taken (rotating or straight), penalties occur if switches are contemplated. For example, in some locales, if one wants to do a residency in the same area and site as one's internship, the commitment must be made two months after the beginning of internship in order to be considered.

In general, we have been told that training sites try to choose students who will survive from internship through a completed residency in the same specialty. Some sites try, and succeed, in avoiding a pyramidal structure, thus lessening the competitive stresses of internship. Nonetheless, these stresses in combination with the routinely demanding schedules of internship

make these years very difficult for the interns. At the same time, the training sites are confronted with their own institutional demands including concerns over manpower distribution, scheduling, training, quality control, patient welfare, relationship to the community, and so on.

The selection process varies widely by the type of site and the specialty area. For example, in some specialties, interviewing for residents begins two to three years ahead of actual selection, because the competition for slots is so fierce. Similarly, certain sites are less competitive. Some do not advertise, because they are sufficiently inundated with applicants. Some do not participate in the national matching system, some use their own application forms and procedures.

Each site attempts to find applicants most like the ideal graduate they desire.

> *We use a rating system which everyone uses, and then individual questions of special interest, like what kind of person they are, what kind of physician they will make, with criteria such as: responsible, oriented to the patients as people, practicing physicians as opposed to research, which belongs in the university. We do not discriminate for or against women, if their education and background are equal. (Faculty, male)*

As in many other cases in the training system where evaluation criteria are subjective, there is room for sex bias to operate.

Students have some control over locating and/or deciding upon internships. Issues upon which they make choices may involve a number of professional and personal matters including pay, hours, attire, and so on. In general, however, the requirements are more complex than these. Perhaps the most important control is deciding upon a specialty early and preparing for it by taking electives and clerkships in the area. Without such preparation, a student may be compelled to take a rotating or non-choice internship. Preparation not only looks good on a student's transcript, but is also provides the student with significant persons to write important letters of reference. These persons must not only be well-known in the specialty, they must know the

student's work intimately and be reliable enough to write a letter appropriate to the training site and the applicant.

There are other forms of preparation for internship, to some degree under the student's control, which we call the "inside track." In these instances, some proximity to important persons, opportunities, and places lead one to internship. Proximity itself becomes a feeder into selection. There are a number of ways of obtaining an internship other than just application: 1) taking electives in the department in order to have a closer relationship with faculty at this school, 2) doing an externship, 3) volunteering in the delivery room, thus acquiring much more experience beyond the rotation, 4) approaching a faculty member for a special reading course, thus getting to know that one faculty person very well.

In terms of obtaining an internship, experience in clerkships, externships, and other lab/clinical work during the summers provide a better chance because the applicant is a known quantity.

> *I obtained my internship by knowing, coincidentally, practically everyone in the surgery department in the hospital due to a couple of summers' work with persons who had then taken faculty positions... They had made it very obvious I wasn't going to have any trouble getting in. (Surgery resident, male)*

Informal information systems provide inside tracking possibilities.

> *My wife was working there already and by chance found out from the department that the second year group was expanding by six. (Resident, male)*

> *I was talking by chance to the chief of staff at lunch during my clerkship and he invited me to join the department with no interview, no nothing. (Surgery intern, female)*

Inside tracks are also provided with some regularity. For example, some sites appear to rate graduates from their own schools higher and to rate a number of schools lower based on some past history with those schools' students. Sometimes university hospitals fill their house staff with their own graduates.

Many months before fourth year students graduate, they have already gathered as much information about potential internship sites as possible. Then, depending on their time and money, they do a quick circuit of the sites to which they are applying. Travelling across the country quickly to meet closely scheduled interviews is common for numbers of students.

The sites try to oblige the students' schedules by setting up interviews whenever possible. The interviews are to provide the site with a sense of the applicant and the applicant with some sense of the site. In many cases, it appears that the amount of selling is approximately the same for both parties (rather than a one-sided affair) in initial medical school application. Since there are many more slots available nationwide than there are applicants, the question is who gets the preferred position or the preferred applicant.

As noted earlier, much of the site's screening is based on its own subjective evaluations of the applicants and the subjective evaluations accompanying the applicant (letters of recommendation, grades from clinical experiences, and so on).

> *We require at least three letters of recommendation, as candid as possible, to help our perspective. Even if we got the undergraduate and pre-clinical grades it is unlikely that we would use them, since there is no correlation between how the student did in school and will in the profession. Often the 'not-best' scholastic student has a profound, genuine interest in medicine and does well. We like letters of recommendation from family ministers as well as teachers; we are looking for the whole person. (Director of medical education, male)*

A standard item among the applicant's credentials is what is known as the dean's letter. In some cases this letter is actually written by the dean, but more often by a faculty member or administrative officer. The dean's letter summarizes the many written evaluations of students' clinical work on specialty rotations and is the major means by which subjective evaluations of clinical performance are conveyed. Some internship sites take the dean's letter quite seriously; others do not. In either case, the person writing

the dean's letter has discretion over whether to include negative and positive comments about the student. We are not aware of a procedure that allows students to review their clinical evaluations and to request deletion of comments they may feel to be unfair or inappropriate.

The degree of importance assigned to letters of recommendation varies according to who wrote the letter and what s/he wrote. That is, if the writer is well known in the field or personally known to hospital staff, the letter has much impact, as it does if the letter clearly shows that the writer knows the applicant's work and skills.

Thus, it is very important that the applicant choose, if possible, persons who are clearly well known and who will write helpful letters. Student access to these letters of recommendation, now required by the Buckley Amendment, may temper what they contain.

Letters of recommendation written for women contain comments about the candidate's personal appearance and temperament, which rarely appear in letters written for men. One of our respondents, a woman faculty member, provided us with a copy of excerpts she had taken from women's letters of recommendation in the course of reviewing applicants to her department's training program. Some of the excerpts are as follows:

> She is an attractive woman, well-motivated, extremely intelligent and compassionate.
>
> Penny is an attractive, mature, personable young lady who is a pleasure to have around and who has no 'hang ups' sometimes associated with female physicians. In the reports from the clinical rotation she is described as: 'serious, conscientious, excellent personality, active, outgoing, interested student with a positive attitude toward learning; she is aggressive, bright, pleasant, able, and a credit to her sex.' There is no question that Penny has all the credentials to be an excellent physician.
>
> Michele is an attractive, somewhat overly aggressive student whose overall performance has been uneven.

She is a very bright little girl, and as she gains confidence in her ability to perform well as a practitioner she should continue to improve.

She is a cultured and well-mannered, feminine young lady who was able to hold her natural aggressiveness well in control.

Her intelligence and aggressiveness are such that she stands out among, but does not antagonize, her male colleagues.

Physically the applicant is a tall well-developed young lady standing 5'9" in height and weighing 135 lbs. (This particular university gives heights and weights for all of its students.)

She was warm and friendly, has a nice smile, and I found it a very pleasant hour even though I felt that I was dealing with a mind that has twice the capacity of mine.

She assumed responsibility at all times, and in the fashion appropriate for a male.

Ms. ( ) is intelligent, mature, pleasant, and dependable. She is also an excellent cook.

Nancy proved to be a very pleasant and friendly individual who is delightfully feminine at all times.

She is a neat girl who makes a good appearance, is enthusiastic, prompt, a hard worker, and who showed better than average ability in taking a history, performing a physical exam, and in presenting and discussing cases.

In spite of her youth, her femininity her petiteness and her oriental cultural background, she handled a whole raft of complex problems with all kinds of people with the greatest professional skill and sophistication.

I found her to be consistently cheerful, hard-working, and completely unintimidating despite her obviously fine intellect and impressive fund of knowledge.

(SOURCE: Confidential Field Data)

Physical appearance, feminine demeanor, and cooking skills bear no apparent relationship to one's qualifications as a physician. But perhaps of more concern about these kinds of comments is the demeaning tone of many of the phrases such

as "she is a very bright little girl", and the apparent assumption made by many reference writers that they must take care to temper evaluations that a woman is bright with reassurances that she is not also an unpleasant person.

Most internship sites place their greatest emphasis on subjective evaluations based on personal interviews of the applicants.

> *We interview all applicants who can make it. If they are not interviewed, they are unlikely to be accepted unless they appear very strong on paper with letters from people we know. Acceptance without an interview will still be unlikely for the competitive programs, so all interviewees have a better chance than non-interviewees. People who have done clerkships here have a better chance than anyone. Length of experience with these students is very important. Many of our current house officers were chosen and self-selected out of this experience. It is interesting that some schools show up more often than others, but we have never developed a scheme for identifying the patterns of applicants and admissions. (Director of medical education, male)*

What is significant here is the wide range of subjective discretion which the site uses in its analysis of applicants, drawn in the main from its own interviews.

> *Someone who is on paper outstanding, may have impressed people as being someone who is an unstable person, given to great moods of temper or upset, undependable. This might be a person who might not fit into the profession; an upset person might not ought to be doing clinical medicine. That's what we're looking to exclude. (Clinical faculty, male)*

For most settings, interviewing and selection time is considered a "huge hassle". House staff are enlisted to talk with applicants and take them around; staff persons then interview them. These interviews are then reviewed and ranked by often fairly large committees made up of house staff and specialists.

Women applicants have commented that they have been closely questioned about their goals and sustaining interest in medicine with comments such as "Are you just waiting until Pop dies?" These kinds of questions seem to most women

to be direct challenges to their commitment and a negation of the four or more years already put in in professional school.

By and large, though, women reported that the interview experience was better this time around than when they were applying to medical school:

> *In general, even though you get that [questions about commitment], they stick to talking about your interests and what you want from their program. It's supposed to be helpful, mostly for your own information. You get a chance to look around. Part of their thing is to sell themselves to you because there are more internships than there are medical school graduates.*
>
> *You get far more respect once you've finished medical school and you have that degree. (Psychiatry resident, female)*

A large applicant pool at any one site or any one department often gives the site an advantage in selecting individual students, but it also puts the site under some stress to meet all the applicants and decide among them.

> *We get 250 applications and do 170 interviews. There are more women coming now, but the pool for this department is now doubling in size, due to the matching system. (Department chair, male)*

In order for hospitals to select the best available graduates for their programs and for students to get into internships and residencies which suit their personal and professional preferences, both parties may participate in the National Intern and Resident Matching Program (NIRMP), an institution now a quarter of a century old. The matching program provides a mechanical means for hospitals and applicants to locate the most desirable of the other.

The general format for the applicants is:

- Register for the plan, pay small fee, agree to abide by regulations.
- Correspond with, visit (much travel and expense may be involved), and learn about hospitals and programs which are and are not participating (about 1500 hospitals now participate).

- Apply for appointment to hospitals and programs of their choice and complete all application procedures, including letters of recommendation.
- After devising his/her own criteria, rank order choices on confidential forms and send to NIRMP.
- Await name of highest hospital to which they have been matched.
- Receive confirmation of their appointment at that hospital.

The chief advantages of such an organized system to students are:

- Freedom from undue pressure while exercising right of selection.
- Assurance that no position will be filled prior to that student's application.
- Appointment to the hospital highest on the student's list which will accept him/her.
- Assurance that the student's preferential list will remain confidential.

The matching plan does not penalize either group for taking "flyers." Should students apply to a hospital in which they think their chances of acceptance are poor, their chances at their second choice hospital are just as good as if they had rated it first. Similarly, if a hospital rates as its first choice an applicant it believes it has little chance of securing, and does not secure him/her, this hospital will have just as good a chance to get its second choice applicants as if it had rated them first. (1:98)

It must be noted that the matching system, while providing a great convenience to both applicant and institution, has a very high price. That is, once an applicant and an institution match each other, there are no options available. The applicant must go to that institution and that institution must accept him/her. This places some burden on both sides for making the best choice possible.

Because of the intense desire of some hospitals to secure candidates and because of an equally strong desire of some students to serve at a particular hospital, pressure may be brought to bear by either party on the other to force an early commitment.

Training sites often noted their problems with NIRMP:

> *We have some regrets over the matching system. We have less ability to handpick, but it is more fair. (Director of medical education, male)*

The computer matching system is basically an honor system, but our interviews suggest that it is violated in order to get a desired applicant. This violation returns to the institution its prior ability to handpick its interns rather than being forced to accept a lesser choice. The violation is quite simple. The training site and the desired applicant promise each other to select each other first on the matching lists, thus ensuring mutual selection.

> *The system can be beaten even though it's not cricket, because you can give mutual guarantees informally. We try not to play favorites, to keep the interest of the whole hospital in mind, although personal clout has some bearing. (Director of medical education, male)*

> *Cronyism is the rule. Anyone who's honest would admit that. You call a friend at the student's school and say, 'Look, we're thinking of ranking x, y and z, 4th, 12th and 20th; what do you think of them?' (Faculty, male)*

It is not uncommon for the matching system to fail to provide an institution with its full complement of interns. This may result from an institution trying to match the best applicants, who do not, in turn, select the institution.

In these instances, and with the beginning of the training period close at hand, departments and department chairs can fill their remaining slots informally by direct invitation. This means that it may be to an applicant's interest to continue to cultivate departments and department chairs close to contract time. For example, in one department of orthopedics, the departmen chair had an empty residency slot and wanted a woman in the department. He merely invited her in, without any additional red tape.

Flexible Postgraduate Trainining Programs

The great majority of postgraduate training positions are structured to serve the needs of the training institution rather than those of the trainee. Most are inflexible in their arrangements regarding duty time. Some training sites, however, have recently begun to experiment on a small scale with unorthodox time arrangements in residency programs. These experiments offer time flexibility in two sorts of ways: part-day, everday, and full-time broken by periods of weeks or even months completely off duty.

These flexible arrangements are important to women as an available option, and increasingly to men, too. Women at this stage in their lives and careers may be struggling to accomplish personal objectives outside of the profession, may desire to take time out for children or to work part-time only. Potential discontinuities at this point work against women applicants. If women do not put their personal objectives well into the future, they may drop out of advanced training, thus accounting, at least in part, for their lower rate of specialty board certification.

On the other hand, pursuing advanced training puts these objectives into the time when a woman would be beginning to practice. It is some women's experience that they drop out of practice for some years following advanced training to deal with family responsibilities, and remain out for a sufficient length of time to forget some of their training or to lack confidence upon their return. Thus they commonly return to a specialty area different than or requiring less specialized knowledge than the one for which they trained for so long.

> *The critical point is when you have kids. If you're out for a while, you become reticent about going back. We need to make medicine more flexible, to find ways of keeping your hand in if you stop out to have kids. (Clinical faculty, female)*

Women frequently mention as a problem the fact that no allowances are made for women as a class of student to take time out during training for a breathing space or to have children. There appears to be no period of time in the pathways to the MD and to one's specialty that affords the opportunity to have children.

Weinberg (94) cites a 1969 study which revealed that 45% of women physicians had always practiced full-time compared to 95% of men physicians. She notes that family responsibilities for women require that some post-internship time be spent with children. Bowers (19) notes that internship leads to a high drop-out rate for women due to scheduling rigors which lead to the abuse of one's own health with special difficulty for women with children.

If the greatest drop-out hazard for women with children occurs during or after internship, a good economic argument can be made for special efforts to retain women at this point to assure continuity of activity and preclude extensive retraining at a later date. Such efforts might include:

- Part-time residencies
- Childcare arrangements
- Scheduling arrangements
- Retraining projects

As the situation now stands, these efforts are few in number; yet they would allow women to stay in demanding specialties and to be strong candidates for most competitive residencies. Weinberg (94) cites an exemplary program in part-time residency at New York Medical College, 1962-1972. In this program, 62 women completed their residencies, and all passed their specialty boards at the first attempt.

Some criticism of part-time residencies, no matter how structured, has been raised because they have been based on women's particular need for them. One women faculty member noted that:

> *It is driven into you to do the same as everyone else, show you're as good as a man. Yet, if we are short of doctors, it's wrong to throw out a whole category of competent women because they can't keep up with the tremendous workload. (Faculty, female)*

However, some men have needed and sought part-time residencies. For example, one woman who received a part-time appointment got it because it had been originally set up for a man with a cardiac condition.

Women are not totally supportive of the idea of part-time residencies because part-time positions may label their occupants as second-class physicians. This occurs especially when such appointments are brought about informally thus requiring individual application, unique arrangements, and the consequent stigma of "special privilege".

Women we interviewed suggested interventions into the strains of professional careers which call for a restructuring of the notion of career and also the economics underlying medical education. For example, it made sense to them for both men and women to have part-time jobs during family-rearing years--not particularly high-powered positions, but in the field. Most jobs, they felt, could be better done by two part-time people than one full-time person. However, as most postgraduate training systems now stand, a person cannot do professional part-time work without having almost all professional rights (status) denied, in terms of returning full-time in the future. However, group practice might be one way of assuring a permanent part-time career. In addition, changing lifestyle ambitions may lead more men to seek part-time programs for personal and family reasons.

Institutional supports appear to be substantially lacking. In 1972, although 118 of 531 hospitals in the United States indicated that they would be willing to offer part-time internships to women, only 19 women were actually serving in such appointments. (1:30) In 1972, 254 hospitals were willing to offer part-time residency appointments to women if satisfactory programs could be organized; 81 women were actually serving in such appointments. Far fewer hospitals were willing to offer such appointments to men. Most of the residencies served by women were in psychiatry, pathology, pediatrics, and child psychiatry. (1:32)

Weinberg (94) comments that part-time programs should be reviewed and approved by review committee and specialty boards prior to the beginning of training so that the trainee may be assured of program acceptability. She suggests that research be directed at the adequacy of part-time programs to resolve questions of demand, losses due to lack of total immersion in training, lack of uninterrupted patient care, and so on.

Few training institutions seem willing to establish or support flexible residencies because they appear uneconomic in the short term. Training sites do, however, acknowledge the tremendous pressure current full-time training schedules place on interns and residents. For example, interns may work six or seven days a week and every third night. Hospitals set up their manpower scheduling based on this kind of service; there are severe economic consequences, as well a potential patient care problems, if training is extended from the normal three years to four or five. For example, in one hospital, OB/GYN internship and residency is very rigorous, calling for coverage every second or third night. The chair noted:

> *I am ashamed to say that we have made no special arrangements for women who might want to extend their training, say, by doubling it. We certainly should do it but have not been pressed to do so, so we haven't. It would create enormous scheduling difficulties, but we owe it to them. (Clinical faculty, male)*

As a consequence, part-time applicants may be less competitive:

> *The committee would look on the part-time applicant with a jaundiced eye, largely because with so many applicants, we never have any difficulty filling slots with full-time students. While there is no rule, it is unlikely that part-time applicants would be viewed favorably. (Clinical faculty, male)*

Some of the part-time residencies which we encountered were more accidental than the result of design:

> *I approached part-time as a stroke of madness. I was tired of staying at home. I heard that a part-time possibility existed at X and Y medical centers. My husband was coming here, so I wrote every place. Most were very negative, including X medical center which had stopped their program. However, Z medical center said, 'Okay, if someone else wants to and there's an opening..' Then they contacted me and told me it would never happen, the department was too conservative. It was actually the department secretary who set it up, not the department. Now the department is proud of it, individual faculty are always asking how it's working out. Of course, we do miss out on some patient care and some lectures. But when we're here, we're here full-time, six months each, one to two months at a time. (Resident, female)*

The split residency was not publicized. They never had one before. Someone else applied for it, then I did, and it was set up very casually. The department chairman had been under pressure from some women's group to do something. His response was, 'If there is an opening, I'll give it to Mary and Betty.' Otherwise, he's not a particularly liberal man. 'Let them work out how to manage their time.' (Resident, female)

Students often feel that many of their number, both men and women, now take a year off after internship. The problem is not the time off but justifying or legitimizing it so it not be construed as lack of commitment or a drop-out:

They didn't give me time out. Only at the end of my rotating year did I definitely decide on pediatrics, so I applied too late to get into a program, since scheduling must be done a year in advance. But since I applied and was accepted, it couldn't be construed as time out. I didn't predict it, it just fell into place. My signed contracts offset the raised eyebrows. (Resident, male)

The price of losing a trained physician to premature retirement is high, as is the price of retraining a physician in the same or a new specialty area after a period of inactivity. Though unorthodox postgraduate training programs appear unwieldy and costly to the training institution, an investment in programs which are supportive of men and women physicians during the time their children are young, might, in fact, yield a high return.

V. MEN AND WOMEN STUDENTS

INTRODUCTION: COMPARISON OF MEDICAL TO OTHER MODVOPPP HEALTH PROFESSIONS STUDENTS

URSA visited more schools and spoke with more students in the medical profession than in any other single MODVOPPP profession included in this study. However, given the number of medical schools and students in this country, we were exposed to proportionately fewer of both than in any of the other MODVOPPP professions except for pharmacy. Thus URSA's study cut a narrower swath through the range of institutions and individuals involved in medical education than in the other professions. In consequence, we offer our hypotheses and observations about both more tentatively than we do in other professions' reports, even though most of these observations and hypotheses are heavily substantiated by the many other studies of medical students and medical schools available in the literature.

It is important to note that there are almost as many students enrolled in the nation's medical schools today as there are students enrolled in all of the other MODVOPPP professions combined (slightly more than approximately 54,000 compared to approximately 57,000, not including public health). Their sheer numbers make them a highly varied group, difficult to characterize. As indicated in earlier sections of this report, available quantitative data coupled with our own field data suggest some significant differences, however, between medical students as a whole and students in the other MODVOPPP health professions. The most significant differences we encountered in our field interviews include 1) medical students' view and knowledge of the profession they have chosen, and 2) the problems men, women and both groups of students cite as primary concerns.

Of the eight professions included in this study, medicine is still the undisputed leader in social prestige, status, and public visibility, and students seemed well aware of that. They may and some did express concerns about whether medical practitioners deserve the amount of prestige they enjoy, whether perhaps prestige and status should even be issues in a helping profession. However, none expressed the same degree of anxiety or defensiveness about their profession's status as did students, particularly male students, in the other MODVOPPP

professions. To the contrary, in many ways students in medicine illustrated a kind of self-confidence and ease about themselves and their profession that we suggest can only come with the security and knowledge that theirs is indeed a high-status profession. Therewas, for example, less concern among medical students with the symbols of professional status, as indicated by their consistently more casual and informal clothing. Medical students we interviewed much more often assumed a great deal of knowledge on the interviewer's part about medical education, specialties, their school, and the medical profession in general. They were also much more openly critical and judgemental about the URSA study and less anxious to commit time sharing their experiences with us. Most telling, however, was their general lack of knowledge about the profession's history and about key and current trends and problems. In the other MODVOPPP professions students with whom we spoke were quite frequently aware of their profession's history, and most spoke animatedly about current political and economic issues, problems, and problem solutions in the profession. In medicine, with few exceptions, both men and women students by comparison spoke much less often about professional, political, and economic issues in our interviews and much more often about either immediately personal concerns or about broad-ranging social and ideological concerns regarding the appropriate role of the medical practitioner.

The personal issues medical students surfaced as of central and primary importance differed for men and women and to a certain extent differed also in comparison to personal problems raised by other MODOVPPP students. Women in all MODVOPPP professions raised concerns about the real or anticipated difficulties of combining family life with a full professional life, about conflicts between traditionally expected female behaviors and professional behaviors, and about the pressures they feel to prove their competence, dedication, and commitment to the profession. These concerns seemed more prominent and frequently mentioned among women medical students, however, perhaps because as currently structured the profession is inherently more demanding of time and availability in most specialities and practice settings than is true of the other professions. The problems we heard regarding the merger of family and professional life are evidently traditional and continuing problems for women in medicine

and nothing at all new. Ten years ago a DHEW survey of women in medicine cited similar problems. 80% of the women interviewed responded that a major obstacle to professional practice was that the job was too demanding to combine with family responsibilities; 49% responded that work on a part-time basis seemed doubtful; 33% reported the discouragement of parents in choosing medicine as a career; 27% reported resentment of male colleagues as a professional problem; and 25% said pursuit of a medical career restricted a woman's chances for marriage. (31)

For male medical students primary problems seemed to cluster around the stresses of academic pressure and competition in medical school and concerns about their ability both to withstand the pressures and succeed academically in a highly competitve environment. Both men and women shared a general concern over changes they felt professional training required of and created in them--changes which in some way contradict important personal values of humanism, sensitivity, and broad social concern. Students in some of the other MODVOPPP professions also spoke of changes professional training required--greater objectivity, willingness to work more quickly and efficiently with patients than they would like--but none expressed the same degree of concern many medical students seemed to express that basic human values such as humility and compassion were being challenged and deemed somehow inappropriate to the role of physician.

HANDLING THE FUTURE IN THE PRESENT: FAMILY LIFE AND A CAREER

For a few women we interviewed the actualities of balancing responsibilities as a mother/wife with the demands of medical training were raised as significant problems. But since most of our respondents were single, for most women the concern expressed was as an anticipation of dealing with the problem at some future time. Many spoke of their decision to apply and come to medical school in terms of a decision to postpone, do without, or not to have a family life. The following excerpts of interviews with female students illustrate the way the two decisions (to become a doctor and to have a family) are connected:

A couple of my friends in pre-med didn't go to med school because they were worried about the conflict. I mean if you want to have children, that's a real decision to make. No matter what you say it's hard to find a man who's going to stay at home and raise kids. A lot of women I know take raising children very seriously. It's something you can't just think about when the time comes. Like I'll be $20,000 in debt. (Third year student, female)

The woman who is the chief resident in neurosurgery here chose. She decided she didn't want to have children. I worry about having to choose! (Fourth year student, female)

I saw a health career as being very confining. I had to choose between living and having a family and doing normal recreational stuff, enjoying friends and medicine. (First year student, female)

Almost all the women students expressed a desire to have both a full family life and a full professional life and think a great deal about the possibilities and difficulities of combining the two.

The aspiration of most men is to be a real top-notch super doctor whereas personally my aspiration is to be a good doctor but at the very top of that list is to be a good person, to have a very good and strong family unit. My idea of a fantastic life is not to be a fantastic doctor with a shattered marriage and not knowing where your kids are, whereas I think maybe a man doesn't think about that too much. Maybe he's thinking I'm going to study really hard now and get into that top position. That's the last thing on my mind right now. I'm trying to figure out how I'm going to have a good family and combine it with my career and be a good doctor too. (Second year student, female)

Stories and rumors abound with admiration for a woman who had a baby during Christmas vacation and was back in classes the next week or about a woman who has children and is a great mother and top of her class, too. In spite of this admiration of those women who are seen as "superwomen" for being able to manage so well, most women did not see these personal solutions as applicable to them. Many women spoke of the necessity of very specific circumstances to make it possible for the "superwoman" to balance a full family and professional life: an understanding, supportive husband who can take time for family responsibilities, enough

financial support to pay for good child care and domestic help, and so on. But female students carefully plan how to manage having children without interrupting the flow of their training or hurting their practice as a physician:

R^1 *Well, let's see, I'm 24. And I figure another three years of medical school, that's 27. Figure three years of residency, that's 30. So I don't plan on having a baby any time between now and age 30. Well, then the question is, do I get married? Will I have found someone by then? If a man doesn't come along, but I still want to have a baby, do I go ahead and become a single parent? And if I become a single parent what kind of responsibilities am I putting on my child? What if I go to practice in Hicksville? Do I say I'm Mrs. so-and-so and my husband died, or this is my child? Illegitimate, you know. I would just as soon, I think, be a single parent. I want my own options yet I know I'm going to be very much constrained if I'm going to be a family practitioner which is the idea I have. I'm going to be constrained to some extent by the community in which I'm living.*

R^2 *When I decide to have a baby, I'll either take a year off or I'll wait in between an internship or residency.*

R^3 *Except a lot of times if you stop a residency program it's hard to get back into it...so it would have to be in between the internship and the residency.*

R^4 *You have to plan it exactly. But it's something that I want to do at some point within the next six or seven or eight years and I'll just do it and deal with what I have to deal with. (Group interview, first year, female)*

Here we are in medicine hearing about natal deformities, and you know the older you get the risk increases so much. I feel a lot of pressure because I am really sick of being a student. I just want to get over with all my training and go out and work. I just hate the idea of having to prolong it anymore to take out time to have children. I resent that and yet, if I tried to go through all my training and then have kids I would really be pushing the dreadful age of 35 when birth defects just really start. (Second year student, female)

For the woman who has had her children the problems of managing time and energy for children and work are compounded by fears and pressures from others that perhaps she is neglecting them.

I'm glad that I had my child. I worried at first...the first year when I was doing my pre-med work, I really worried about him and people...lots of people...people

who I didn't even know very well would say, 'don't you feel guilty about leaving your son?' or really tactless things like that. I gradually got a sort of an answer for it, but I didn't really stop worrying about him until...oh, I think some time in the first year of medical school. It was becoming more and more clear to me that he was turning out fine. Not just fine as in okay, but marvelous. He was confident; he...you leave him with a sitter and he'd stand at the doorway waving happily good-bye, no tears. He's still attached to me, and yet I began to see that what we were doing was a different lifestyle in that my son was attached to other adults besides his mother and father. He had a babysitter that he liked. He had the woman at the day care center that he liked, grandparents in the city, a few neighbors who took care of him. Not only was I not doing him damage, but in some way we were giving him something extra. (Fourth year student, female)

Male students at times also expressed a desire to have more time for and a better balance between their profession and family life. For some it was expressed in terms of problems maintaining their home life while in training:

Just in my personal relationships, I find I have trouble squaring things away. You become very self centered while in school because you are constantly spending a lot of time in certain things for yourself you want to do well. I have trouble squaring away that concern about that and concern with spending the time and doing things well and of course you become egocentric about that and then in your personal relationships not being as egocentric. Now at home you are dealing with somebody else and somebody else's aspirations and issues and you've got to be attuned to them and I find it harder and harder to do that. In my personal relationships I'm expecting much more than I deserve to get. I go home and I think, 'well, I need emotional gratification,' and I find the strain with a friend of mine at home, you know, we're not relating as well because I seem to be demanding too much. It's hard to be so concerned with the self on the one side and not do the same thing in your personal life. I mean you are playing two different roles,and I find it hard to transcend the two. I mean the one is consuming, and I don't like to be consumed. (Third year student, male)

For other males the issue was felt in anticipation of how they want to lead their lives in the future:

> *I don't want to be one of those 100 hour a week super-doctors that die at the age of 45. I want to have other things in my life. To be a part of my kids growing up, to have time for my family. (Second year student, female)*

Although some of our male respondents expressed wanting to better balance family and work lives, an important distinction must be made between how the problem is felt and expressed by women and by men. For men the issue is what they would like to have for themselves. For women the issue is a more intense necessity. Society expects a woman to fill the role of full time mother and wife in addition to whatever else she does. There are no other institutions in our society that exist to fill this function. Therefore for a working woman to have children at all means automatic imposition of the tensions and balance problems between work and family. For men it is a choice. A male can have family and choose the amount of time and energy he will allocate to family versus his profession.

The real costs for women in trying to manage both family, child-raising, and work lives are documented by several studies. One shows that the amount of women's medical activity is inversely related to the number of children a female physician has. (35:9) It has also been documented that marrying late or not at all for women physicians appears to be related to professional success whereas marrying early and bearing children in early professional years is associated generally with inability to practice. (98:278-9)

SOCIAL PROBLEMS

The desire to have a family and the difficulty of planning carefully to have a family and a profession together are aggravated for female medical students by the fear of not finding a mate. Women in all MODVOPPP professions spoke of some problems with dating men who do not understand, support, or accept their choice of a male profession. In medicine women spoke of the fear of never finding a male who could accept their

high status, high pay, and strong professional commitment. This problem is uniquely women's because it is the accepted pattern in our society for men to marry women who have less status and less earning power than they.

> *The social handicap I think goes farther because the male hotshot doctor has a multitude of social places to draw contacts. Anybody he wants. A woman, being in medical school is bad enough, but especially doing well in medical school--who do you date? You can date a lawyer, you can date a professor, and there's almost nobody else who will have anything to do with you because, again, it's this whole thing of the exceptional professional woman being very threatening. And I found that the higher you go in your education for a woman the more you narrow down your field of social contacts. If you're still looking for a permanent kind of relationship, man, your field just gets smaller and smaller and the better you do the worse off you are. Whereas for a man it doesn't work that way--it broadens for him. (Third year student, female)*

For women in professions with top status and pay, the range of men for whom they make "appropriate" matches tends to be limited to the men within their own or very few other professions. But from women's reports even this seems a remote possibility:

> *It's a feeling I've had for so long you know when you come up with smart remarks or when guys feel that you're kind of impinging on their areas or telling them something they haven't thought about they kind of don't think of you as being feminine any more, and it's very hard to establish sexual relationships. It's a problem that always has to be dealt with...I think women in medicine are very threatening to men, just the prestige that medicine has. You tell someone at a party or something and they sort of draw back. It's seen as being unfeminine...there not being something quite right about this woman. (First year student, female)*

Women we interviewed felt that not only are they threatening to men as professionals, but that because of their work they can't fully fill the role of wife as well as non-professional women can:

> *If you're not married before you come in, or if you don't have a relationship, it's really hard to meet guys that might be potential people to live with or people to form relationships with and especially if the guys in the class*

are looking at you like you're going to be competitive females, you know. Or they look at other guys in the class who are married to women who stay home and not working and have kids or who are working putting them through medical school...(Second year student, female)

I never wanted to be 'one of the guys,' even with my male friends. But at least it means they're not threatened by me. 'One of the guys' means to ask to be treated no differently, so that the fact of your sex doesn't enter into it at all. I don't want equality that way. At least, some sexist comments do acknowledge that you are a woman. If they never say anything like that around you, they must be getting the message that you are 'one of the guys,' an asexual response. They don't recognize that you are a woman. They're not interested in you as a 'woman friend' or a woman sexually. But I'm not just a doctor, I am a woman and I intend for people to see me as a woman. If they don't, you've lost yourself, become one of those terrible 'things' so engrossed in medicine that you lose your sense of personhood, part of which is what sex you are. They remember what you did, such as research or treatment, but not as a person, or a woman. (Second year student, female)

Though women reported feeling unacceptable as women to their male colleagues, it is important to note that women in medicine did not feel the general social isolation that women in other MODVOPPP schools express. This may be due in part to the greater numbers of women in medical schools, the larger school and class sizes, and the fact that most medical schools are in a university setting (as opposed to being freestanding) and thus offer other schools and students as potential sources of social contact.

The isolation that many female medical students do experience is in relating to the world outside of medical school where they face the disbelief, unacceptance, or just discomfort of peers and family. In several group interviews women discussed the difficulties of dealing with people's responses when they say they are in medical school. Often people just don't understand:

You know, you tell someone you're in medical school and they say 'Oh, you're going to be a nurse, how nice', and you say 'No, a doctor' and just get a blank look. (Second year student, female)

Other people express questions about a woman's abilities or competence to get in and do the work:

> *When I got my second acceptance to medical school my mother-in-law slipped and said 'Oh, so the first one wasn't a fluke!' (Second year student, female)*

Still others just exhibit a kind of discomfort about how to respond to a female medical student:

> *I feel like some kind of a freak. At parties the men go into the living room and the women into the kitchen. When I go to the kitchen, too, there's this kind of uncomfortable silence like I don't belong. So I sit in the hallway. (Third year student, female)*

In spite of whatever pride or involvement women feel in their medical school experiences, many find it easiest to just not talk about it to people outside of school:

> *I'm just careful of what I say depending on the situation I'm in. I'm not ashamed at all, it's just the kind of thing, even with family, people who are just ignorant in general, it's not a waste of time to explain what I'm doing. But with somebody who says 'What are you doing and you say you're in medicine, and they say 'Great, oh you're going to be a nurse and I say no, I'm going to be a doctor.' 'Where do you go to school? What kind of degree do you get? Is that a medical degree you get?' And I just can't believe that I'm wasting my breath on these kinds of conversations. And it's happened to me more than once. I don't see why I have to scream at the top of my lungs that I'm going to be a doctor and that's why I won't go out of my way unless they are someone who means something to me, I will say something. (Third year student, female)*

One woman spoke of going on vacation with another female medical student. When they boarded the plane they agreed:

> *If anyone asks what we do, let's say we're secretaries.*

> *It's disappointing not to be able to talk rationally about it without people going overboard one way or the other. It squelches your enthusiasm. I think you kind of turn inwards.*

> *It's like you're constantly denying yourself as a person. Well, forget my accomplishments, look at other parts of me. Well, I can't because your accomplishments are a part of you and I can't relate to that, so you end up having more and more medical student friends and feeling less and less a part of the real world. (Third year student, female)*

DOUBLE BINDS

The tensions women feel over their recognition or nonrecognition as women was expressed as part of a larger and more general conflict of how to behave in the least damning way. Variously described as "walking a thin line", "damned if you do, damned if you don't", and "you can't win as both a woman and a physician", women spoke of the clash between standards of professional behavior and standards of feminine behavior. These most often included issues of aggressiveness and decisiveness.

Women's decisions about when it is necessary to be assertive and when it is best to remain silent were intensified by their concerns about what kind of person they may have to become to survive in the medical profession. A common stereotype of women in medicine is one of a hard, "unsexed" female. In making their decisions to go into medicine women expressed fears over what medical training might do to them.

> *I think this ties in very closely with the lack of role models and I know Sue was telling me this morning about how the role models that she did see in medicine. . . She just dropped out of pre-med because she found them old and so aggressive and so unattractive and they were all typical old maids, none of them married, most of them what nobody should ever want to be. I think of the women doctors I have known. They are almost uniformly unmarried . . . Except . . . When I met Dr. _____ I really got inspired and thought that's what I want to be.*

> *I never felt comfortable with the other women I saw around me who were going into medicine. I saw them as two types of people--the women who were socially ill at ease and tended to stay in their rooms with their books and the other type that was extremely aggressive to the point that I was really put off, the type that would sort of walk over everybody to get her goal.*

> *I hadn't met many woman doctors and of the ones I had, I didn't like their type of life style. The majority weren't married, didn't have families, didn't seem to have any personal life outside of their professional life, and what I thought was that if you went into medicine you had to give up those things. It wasn't science vs the humanities that was like that, it was just medicine that I saw as being that way. And it seemed to me that it was so hard to get into med school that you really had to be one of these two ways. (Second year student, female)*

Women students often expressed fears that the training process and perhaps the work itself would demand the same of them.

> *You have to steel yourself, you can't be a crybaby, you have to keep going. I'm finding that continually a drag. I feel it's hardened me. But I don't want to get too hard. (Third year student, female)*

> *I am past the age when I have to develop myself as a woman, so I will not develop the crust which woman doctors have who became doctors ten years younger. The crust is the same for most men and women, but looks better on men than on women. I mean, I have changed somewhat, I am less ladylike, more angry, hostile, aggressive. These are qualities I had anyway, coming out now, I won't be pushed around, like in restaurants. I hope I'm not becoming unfeminine, it makes me nervous. I am very selfish and survival-oriented now because of the competitive nature of medicine. (Fourth year student, female)*

> *The female resident here was telling me that she had to play the man's game in order to become chief resident. There's no way that she could have, you know, been less aggressive, she had to know the facts, she had to be very professional and kind of play their game in order to get the position. And I think the feeling is that the values that have been set up by males are longstanding and it's demanded, she has to play the game. (Intern, female)*

> *That's something that . . . I'm glad you mentioned that . . . I've gotten really worried in the past year or so. I've been changing, I used to be a very intuitive, warm person and now I find that I talk like an automaton. My neighbor has even told me that she finds me very cold now and that's not what I want to have happen to me but . . . the process of getting through this medical school, flexible as it is, has made me very time-conscious, very efficient, got to get everything done on time, you know, always come through . . . I find . . . I push myself very hard and I guess this happens to a lot of people in medicine. I push myself so hard that I begin to lose sympathy for people who don't push themselves. I've been on the other side of the fence. I've been down. I needed a hand and here I am turning into just what I didn't want to be. (Fourth year student, female)*

One important situation that requires of a woman careful weighing of the costs and benefits of (re)acting a certain way is in the decision of whether to let some problems slide or to call attention to herself by raising them or defending herself.

You feel like you don't want to admit you're having any problems because you're a woman and you don't want that to reflect on,you know, that you're weaker or less qualified or anything like that. Your actions have implications for how women are doing in medical school. Whereas a man is just one of the guys, you know, somebody sticking up for themselves, but it's not that easy for us, they just pass it off as 'she freaked out so . . . you know, another hysterical woman' (Second year student, female)

I think the expectations are just--not always lower, but almost always different for women. And I'm not even sure what they are but I find myself, it just really will blow my mind, like I'll go out on an IOM thing and spend time with a doctor and I'll find myself acting in a way that I've just never found myself acting before. And it's really sort of a response to the cues that I get from doctors--that if I sort of can get myself to act more 'feminine' that I won't have to take as much flack when some kind of problem comes up, so I sort of store up brownie points for the time that that might happen and I might really need to be aggressive. But I know the first day of every time I have an encounter with a new doctor I dress nicely and I try to act really sweet you know . . . to reassure them . . . and I don't know how that's happened but I really feel disgusted at myself and I feel pissed at the same time at them. (Second year student, female)

I feel that ideally it should be another way but if I want to get by I'm gonna have to be better. That's the way it is. And I can work for change but I'm not gonna work for change so much that it's gonna jeopardize my position and I feel that asking for special favors at this time either as a woman or as a Black person or whatever is jeopardizing my position. (Second year student, female)

At times women do feel rewarded for their feminine behavior, at other times punished for it. Women often apparently scope out a situation to gauge which behavior is most appropriate:

I have just one comment to make along those lines and that is, sometimes in dealings with doctors you, you feel that there is a force that you should, you know, try to act out this feminine role and you'll be accepted more and a lot of times you'll actually learn more. The doctor will teach you in this context of you being a helpless little, you know, whatever and you know it's one of those weird things. . . Like I was talking to a female resident who said that she finally learned that she sort of had to play this game in order to get what she wanted and to learn the information and so on and if she acted the way that she felt best about

herself which was independent and intelligent and this and that nobody would help her, and they all just thought she was this masculine, castrating whatever. (Third year student, female)

Women just have to learn to be self-assertive without seeming too aggressive. I mean, if you're too sweet they don't take you seriously as a doctor, but if you're too aggressive they pass you off as a 'women's libber'! (Third year student, female)

Women in all parts of the medical school system reported risks of being too aggressive:

When I was in medical school, men would say 'you can get away with that just because you're a woman'. But recently when I was interviewing a man for a faculty position in my department, he said he thought women shouldn't be in medicine. I got livid and he responded, 'Oh, women tend to get so emotional over this issue.' (Faculty, female)

Some of the more outspoken feminist students may run into trouble when it comes time for recommendations and promotions. Promotions just do depend on whether your colleagues like you. And these aggressive types are going to have trouble. (Faculty, female)

Comments from male faculty illustrate the dislike some feel for women who become too aggressive.

Our women graduates have been extremely successful, but there are some behavioral problems. They have become too tough, too opinionated, and into fighting for themselves. They have lost some of the softness which I find appealing. (Faculty, male)

Women expressed anger over the double standard they feel allows and often expects men to act assertively but condemns them for the same behavior:

There's one woman in particular who has been singled out and they just can't deal with her. But she relates to the professors in the same way that the most aggressive men do, and it's one thing for them to do it but she can't do it. And its sort of an interesting case because she's very aggressive and very self-confident and she's also obnoxious. Everybody agrees that she is obnoxious. Now what if it was a man who had all these qualities and was obnoxious, would he be singled out the way she is, because she really is. And I know that she's an excellent student and she didn't get her residency of choice. (Fourth year student, female)

I think that's very true. I feel very uncomfortable in a group situation when it's obvious that I'm a better student and all the rest of them are guys. I'm totally uncomfortable. I feel like--am I stepping on people's toes? Am I talking too much? Am I being too aggressive? I'm continually worrying about how aggressive I am. I'm sure men don't worry about that. (Second year student, female)

One of the double binds our respondents reported applies to how much intelligence a woman can show without feeling as if she is threatening others:

Just that you can't be both serious and intelligent and a woman too. You get a lot of feelings you have to be one or the other. And if you present as being intellectual and having certain standards and then in a totally--outside that situation present as being you know whatever--soft--somebody says, men in particular, but you're a woman's libber. How can you--you know, you're such a dichotomy, I never know where I stand. (Third year student, female)

Many women reported that they feel they must stay on guard and try to control their behavior carefully.

The woman medical student is probably more assertive than the average woman because she got here, as is the male probably more assertive than most males, and the women have to learn to deal with it--hide it, use it, you know, control it. (Third year student, female)

In those schools we visited with a higher percentage of women, it did seem easier for the female students to take the roles they associate with assertiveness.

Mostly I would say I just squirm when people are antagonistic towards women. That's another problem, when you come across that, where in medical school we are being sort of terrorized by the fact that these people (faculty) have a certain degree of power over us, and in responding very strongly there's always a fear of repercussions...but there are a lot of women in our class, and I feel like that gives us some degree of support, some degree of strength in order to try and fight what these people are doing to us. (Third year student, female)

IMPACT OF TRAINING ON SELF

In each of the schools we visited, and particularly in the more innovative schools, many of the men we interviewed voiced related concerns about changes required of them in training; and, though from a somewhat different perspective, they shared with their female colleagues a humanistic approach to the profession. Male students seemed to arrive at this perspective through a general political conviction that medical care must be changed in this country. Women voiced their concerns primarily from the point of view of their personal interest in providing caring, human, patient-oriented care. But both these male students and the female students felt there is something in the process of medical training that will not allow them to maintain their concerns.

> *Medicine is a process of loss of one's humanness rather than the gaining of new perspectives. It is loss of respect for the human body or the person who is in the body. The focus is always on the disease aspect, not the person. That is what you have to do in order to do the work. It saves you from being hurt yourself by hurting someone else in order to help them, like shoving a needle into their arm or a tube down their throat. If you feel hurt and you cry, you can't help someone else. Medical school doesn't teach you how to deal with pain or death on the emotional level. In fact, you learn to <u>not</u> deal with it. And hospitals do not allow you to release your feelings. (Third year student, female)*

> *This whole medical education is a brainwashing process. One is surrounded by only certain kinds of people, by only certain values. It shapes you and is very difficult to fight. There is no good response to what exactly it is that you are brainwashed into. But I don't want to become a cold physician that just runs the patients through a mill. (Second year student, male)*

Medical students seem very conscious of how the socialization process works.

> *Well, let's face it. Doctors are not allowed to be human beings. I've been told a million times, your patient does not want to know what you're doing in your spare time. I mean if you drink alcohol or smoke dope or something, your patient might think that you do but they don't want to know it. I was told I had to change the way I dressed just to go into the hospital. I used to wear long dresses. The patients were not used to seeing that sort of thing on doctors. I think it's absurd myself, but that's the way the*

administration feels. There's a set model. A doctor dresses nicely and talks nicely and they do all of these things that are acceptable and being an individual is not accepted because they are afraid that you are destroying the image. (Third year student, female)

People who get accepted have leadership potential. Once you're here I think a lot is done to even remove some of that potential in the sense of forcing you into a mold. The mass classes. It's passive. Students are given what they are to learn. There's subtle pressure not to make yourself outstanding, not to disagree with faculty because their evaluation of you is important so you don't say things or do things. And if you do say and do things, as I have done in the past, you really get it. I mean you get it in every area. I mean you know about it. You come in and you're mocked. They try to teach us to just accept everything. (Second year student, male)

That's the scariest part of it. I can envision by the way the whole system is set up that it does get worse and worse. You begin to lose more and more of those qualities the more you go into medicine. You become more enamored with the techniques, with the equipment, with the drugs, with this and that, and that is what, on some levels, makes us so efficient today,and that's why some of us went into medicine, to try and change that. And yet I can see this whole process that pressures you further and further towards any kind of human medicine and pushes you more and more towards loving, I mean, not only are you doing those things that you once thought were not a good way of dealing with people but you also are not realizing what you are doing. People are not going in with evil intentions but they come out of the same mold. (Second year student, female)

Students go through a number of personal changes:

First, I was afraid of not being good enough for medicine. I was feeling scared and incompetent. Some people cope with it better, some worse. I do worse, I shrink back, don't initiate, and feel unprepared. Then I discovered I really could do clinical work, and I was afraid of being shunted as a woman to research or academic medicine. Now I'm afraid of ending up in some obscure specialty, rather than primary care, but I'm also mostly afraid of losing my sensitivity to patients and becoming callous. (Second year student, female).

I wonder to what extent we're being conditioned in dealing, say, with patients. Such a premium is placed on efficient budgeting of time, but in one's personal relationships you don't officially budget your time. This is what I find myself doing, you know, let's get the most out of this evening. And you just don't deal with people in that way. You're expecting too much. To some extent maybe that kind of cursory manner of dealing with a person is conditioned into you. (Second year student, male)

When I feel uncertain, I appear uncertain, I can't maintain another image, I'm too transparent. You need to convince yourself and the patients that you're doing the correct thing in a risky situation, otherwise you unsettle them. You can't say anything or appear like an oversensitive medical student. You can't be straight out honest. You have to play the game to some point. If you appear insecure, they trust you less. This can't last into my internship. (Fourth year student, female)

This general theme of developing a hardness and an assertiveness is perceived by the students as a threat to their humanness. In somewhat the same way that women students want to see female role models who are both successful physicians and successful women/wives/mothers, both male and female students want to see role models of successful, caring, humanistic physicians.

I hate these people, these doctors are inhumane, horrible, beastly. I don't want to be like that, it's an awful struggle. Yet I can understand that being that way enables them to function under the pressure. I wish there was some doctor to show us it's possible to be human. (Third year student, male)

Super-doctors die at 45 of heart attacks. I'm not sure that's what I want. (Second year student, male)

I found more males I could identify with as role models than females by far. You know, like there were certain men who had no ego problems at all and were just incredible, gentle, fine people who were really smart and didn't condescend and, you know, I found like maybe three male doctors like that and I haven't found one woman like that because, I don't know what happens but it seems like... the problems associated with it just seem to have created more almost stereotyped personalities for women.

These are all women who have in that sense devoted their life. And if you do not see yourself functioning in medicine 101% of the time then they're not very good role models. That's a big problem. This whole idea that if you don't want to devote 90 hours a day to medicine then you're

some kind of a--you're not gonna be competent. You're not gonna be a good doctor. And I personally just feel that's really terrible. And I think it's more of a problem for women because more women are apt to define their lives in more ways than just medicine. (Third year student, female)

Other males express concern about attacks and changes in the public image of medicine that catches them in the middle. They feel the pressures of public expectation and a fear of public anger.

I think another reason why medicine is the way it is is that the whole concept of what doctors should be in this society is screwy--which is that you should be gods and that you should know all the answers and that you should be perfect. And then when they find out we're just human they get mad. (First year student, male)

It used to be that a doctor was the closest thing you could get to God, but also a sort of grandfatherly figure, sort of a benevolent, kindly person who came out of the night to deliver babies and who was there in times of trouble and good times as well. That image may clash with the reality of the modern physician who is much more tied to the hospital, to his schedule, to his bookkeeping operation. And I think that people then get very angry with the physician. One, he does not measure up to the old role or dream that they have of him, but also that we as physicians have made a tremendous number of claims about the marvels of modern medicine and those marvels I think are largely over-priced and non-existent. (Third year student, male)

You run into the god complex, not because you've got it but because people seem to hang it on you. You're expected to act in a certain way, you're expected to know everything. (First year student, male)

It seems like you're really expected to maintain this incredible standard, this godlike standard, like being perfect and never making a mistake and they're always willing to find you infallible. (Second year student, male)

I've found several people who've gotten antagonistic. I went to a party and there were some people there who were sort of like sociologists, and when they found out I was a med student they started dumping all over me. They started talking like, you know, you money-grubbing bastard. If there was no malpractice, your malpractice wouldn't be so high, so you guys shouldn't bitch and all this kind of thing. It's your own fault and you guys aren't as hot as you think you are, just clip my toenail wrong and I'll show you who's boss. It was really a bummer. (First year student, male)

One male student spoke of it in terms of the ready attack on medical students for wanting to make money.

> *I'm just saying to have to suffer, I know what it meant having no money--it means having to spend all these years going to school and then having to go right back to that. No, I don't like being attacked for making money. If you want to ask about it, I would like to make money and, you know, when you look at some doctors, some doctors are paying over 30 thousand dollars a year in just malpractice. And then a lot of people, because of your position, will try to take advantage of you and will burn you--if things were different in this society, okay, but in this society you cannot even live on 12 thousand dollars a year...I'm talking about to be able to be comfortable like, you know, be comfortable, but I don't have to have money to burn. (Second year student, male)*

By comparison to the men students, women we interviewed did not express concern about the public image of medicine.

FACULTY AND ADMINISTRATORS' ATTITUDES TOWARDS WOMEN

Women were generally accepted by faculty and administrators as a regular and normal part of the student population in the schools we visited. Some individual examples of jokes at the expense of women or other intentional acts of sex bias were reported by women, but their incidence seemed less than in the other MODVOPPP health professions. Many faculty and administrators did express doubts about women as practitioners, however. The primary doubt was whether women will practice:

> *I think the barriers are really gone for women. The issue is the number of years they will work. It's a big question in my mind, but it doesn't affect how I treat women students. (Chief administrator, male)*

> *I think the only question that remains to be answered in terms of women in medicine is,is it a truism or is it a shibboleth that they tend <u>not</u> to continue actively involved in medicine for the remainder of their productive life. I think the one thing they have to do now is prove to us that for all practical purposes this education is going to be utilized for the rest of their productive lives. (Chief administrator, male)*

> *I just have a feeling that we get considerably less working years out of women, it's variable and intermittent. (Faculty, male)*

Another of the male faculty members, among the most sympathetic to women, agreed but felt that the issue of worklife productivity should not be acted upon:

> *At the moment it's a legitimate argument that whoever is paying the bill wants to get the most out of it, but I think that's very unfair to the individual. I do think it's true that women as a group tend to practice less, but that's unfair to the individual. The only solution is to train more doctors.*

The attitude of some of the few women faculty toward women students was similar:

> *Women should not need to be led by the hand after they make it into medical school. A woman should do it on her own. I'm not indifferent and not unhelping, and I do hold their hand. But I have the innate confidence in them that if a woman wants to, she can do it and doesn't have to be babied. I tend to ignore discrimination and not look for it, while others do. There have been a lot of changes in the last five years, and it's reasonably easy for women now. I'm not sure any other push is necessary in medicine; they can function as well as men. Of course, men practice more and more often full-time than women. This may increase even more if people start working part-time, double careers, and lots of people can't handle it. I have several friends who had situations where something <u>had</u> to give. Of course, this is not unique to medicine, it's common in other professions but it does lead to higher numbers of drop-outs which make more problems for women at the admissions stage. (Faculty, female)*

As students, women were generally thought to be bright, attentive, and well-prepared. Some respondents even felt they are better students than the men:

> *In several of our classes since we've been in existence over one-third are women. The greater percentage of the female applicant pool tends to be accepted than the male. The first time that this came to my attention that we had an enrollment of over 30% women, I immediately called Dr. X., Chairman of Admissions, and said, 'Look, women's lib and so forth is fine but let's not go overboard in this matter. Our position is one of non-descrimination and equitable treatment of everybody.' And he said, 'Simmer down, we haven't gone overboard.' The admissions committee hasn't. He said, 'Those gals are there 'cause they earned it. They're just plain better.' (Chief administrator, male)*

However, even this recognition does not necessarily affect the way faculty view women as potential practitioners.

> *We've had excellent women students, the same as the men. But, it would be difficult for me to think of a woman in OB/GYN that I would feel comfortable referring a patient to. Now there are some exceptions--in very circumscribed areas. Lack of dedication to medicine. Either they have given up the idea of family and have become very masculine in their approach and very difficult to differentiate, or they maintain their femininity and their family and allow their family to interfere with their practice, which may not be all that bad, but if you look at it from a purely medical standpoint it can be. The thing I was thinking specifically about is that rather than the woman being more compassionate would be that you don't need to be that way, I've gone through it and it's not that bad and you're being a disgrace to all women by acting that way, now shut up and behave yourself. So that I think at least the few women that I've observed I have not felt they have been more compassionate, I've found they were less compassionate. This could be a very dated viewpoint. (Faculty, male)*

A woman's sexuality was an issue for many of the male faculty we interviewed. Unlike male students who seemed most often to ignore the gender of their female colleagues, male faculty were very aware of it.

> *I can't think of any problems the women have had. I can think of some who've used their femininity to their advantage, you know, they dress down to here and up to there. (Faculty, male)*

> *It's very distracting for me to have women in classes. It means watching my language and a general uneasiness about what is appropriate. (Faculty, male)*

From female students came reports of exchanges with male faculty:

> *I had lunch with a faculty member last week who had been on the admissions committee, was off last year, and is back this year. He said that he--he was just raving about all the people he had interviewed in the last two weeks. And one of his examples was this woman who had come in. He said, 'She was a knockout. She was beautiful. And I kept looking for something wrong with her and couldn't find anything wrong with her. It was phenomenal. If only we can get her.' (Student, female)*

Sometimes the discomfort of male clinicians can affect the learning opportunities for women:

> *Sleeping arrangements is another thing that is a real problem because, you know, I haven't been on surgery yet but the surgeons will not allow the female medical students to sleep in the same room. I mean, they think women will seduce them because they're uncontrollable. I think it's just that they're very uncomfortable around women in that kind of setting...they just aren't sure how to handle it. Things like, 'What do I do when I get up in the middle of the night with my shorts on?' They're uncomfortable about sex, about bodies, about how they relate to women. And they don't want a hassle so they say you're not allowed in. So we don't get to see the emergency surgeries, because they don't call, because we're sleeping in some room far away and never know what's going on. (Fourth year student, female)*

But some faculty did suggest that women do bring something special to the profession. One of the male faculty members added an appreciative observation that women can be substantively useful to medical practice:

> *I think women students contribute something to the atmosphere. An appreciation of certain patient problems. I can't document that very well, but I feel it. Well, for instance, the hysterectomy. It's being brought to our attention that that's an operation that is perhaps being done much too often. I hadn't ever really thought about that, where I certainly would have if the operation in question had been the removal of the testicles. (Faculty, male)*

INCIDENTS OF SEX BIAS

Women in medical schools, as in all the other MODVOPPP schools, experience every day incidents, intentional or unintentional remarks, and occasional overt acts of discrimination. In recent years, several reports and studies have been written documenting the existence and extent of these incidents. Most recent of these, Margaret Campbell's Why Would a Girl Go Into Medicine? (21) documents two types of sex discrimination reported by 76 women in 41 medical schools: overt discrimination including baiting, belittling, hostility, and backlashing; and subtle discrimination including ostracizing, forgetting, spotlighting, and stereotyping. All of these were reported by women with whom we spoke in our study.

Some women respond to these forms of sex bias by developing a kind of armor to protect themselves:

> *There are a lot of little things that happen, minor irritations of stupid jokes, the nudie slides and so on. Those things sort of build up and make you feel unwelcome as if you are butting in somewhere where you are not wanted, but that gradually wears off and you get used to butting in where you are not wanted, and I guess you get a thicker skin. You stop caring whether you're welcome and just put up with it all. (Fourth year student, female)*

At times women reported seeming very visible and closely watched and then determined to prove any assumptions of inferiority incorrect:

> *There was one group I worked with in orthopedics that was always making put down comments about women and just waited for me to mess up. I was the only woman on that rotation. One day I was holding up a girl's leg while the cast was put on and it took hours. I got really tired and the human thing would have been to say to the other medical student (a guy) watching, 'Why don't you hold the leg for a while?' But I felt like--and then at one point the girl looked at me--it was a young girl who was getting the cast on and she said, 'Are you getting tired?' I guess I must have looked it. And the surgeon said to her, 'No, no, she's not getting tired.' I was really tired after awhile and I wanted to say, 'Well, why don't you hold this girl's leg' but I knew I couldn't say that because then they would have made a big thing about a girl got tired holding up the leg--so like I ended up with a sore arm. (Fourth year student, female)*

Pressure is generated by the doubts and prejudices of others who believe that a woman can't do the work. The pressure to prove oneself was felt by women in all the MODVOPPP health professions.

> *I just feel so visible all the time. Like if I made a mistake everyone would see and think, 'I knew a woman couldn't do it.' So I make sure I know what I'm doing. (Second year student, female)*

> *I know that some people are prejudiced about women, so if I want to make sure to get a good residency I <u>have</u> to be tops. (Fourth year student, female)*

One male student in observing women students noted their concern about proving their competence.

> *Women here are seen as and function as a group. They relate to the fact that they are women doctors, not just doctors. They are exceptional, sort of fought their way in here. They support each other in what is actually happening to them. Men can, but are reluctant to help. They don't talk as much about their feelings. Men generalize through abstractions and women personalize, make things concrete. Some women do fit the stereotype of brainy, odd, unattractive women, probably due to the fact they were a real minority in the class. I feel the women in the class are a little more insecure than the men about whether they will be good doctors, technically, to do the right thing, make the right diagnosis. They have more doubts and are more careful about being sure before they go ahead. (Third year student, male)*

At other times women feel invisible, like their presence is just ignored. Many women spoke to us of experiences in the clinical years where practitioners relate only to the male medical students. One male reported <u>his</u> discomfort with the situation:

> *One doctor in the hospital was confronted with a rotation of five female students and me--the only male student. It's hard to handle it when they (doctors) consciously ignore all the females and stare at you. It's hard to call a doctor out, especially with patients there, and most doctors don't know what you're talking about anyway. (Fourth year student, male)*

One woman summed up the experiences of being watched so closely at times, invisible at other times, as follows:

> *Either they are praising you or putting you down, assuming you need help or ignoring you...but no matter how they're treating you, you're <u>always</u> a <u>woman</u> medical student... patients, the guys in your class, faculty, doctors...it's always there, you know, you're a <u>woman</u>. (Third year student, female)*

At most of the schools we visited, comments were made about the situation getting better as more women are accepted and more incidents of sex bias are challenged. But the chief administrator at one school was cautious:

I find myself thinking that because there are women students here in pretty good numbers, that they are well accepted and that they don't have problems. I think we all get lulled into a false sense of everybody being perfectly alert when there still are experiences that these girls have that we need to continue to guard against. The male students unconsciously sometimes put these women classmates into uncomfortable situations. I don't think they mean to, but they sometimes do. The patients themselves frequently will put the women students in an uncomfortable situation, and I think that the male students and frequently the male attending physician does not always immediately sense the situation and come to the rescue and defense of the woman student. I think these are the things that we just have to continue to be sensitive to and to be aware of these things, try to correct them. Wherever small incidents occur you just point them out. I think frequently people just overlook, once it's been pointed out it's an educational process, a learning process. The faculty and students aren't dumb, sometimes they just overlook. Most of the problems do not come out until the clinical years. (Chief administrator, male)

ATTITUDES OF MALE STUDENTS TOWARDS WOMEN

We heard a range of opinions, responses, and attitudes towards women expressed by male students. One male student voiced an appreciation of women:

Women are more open to expressing their emotions and that allows the men to do that too. For instance, the first day of anatomy we were walking in to start for the first time on a cadaver, and a female friend said to me, 'I'm scared. I've never done anything like this before.' It sort of surprised me and then I could admit that I was scared too. I was terrified. (First year student, male)

But generally male students shared the belief that women won't practice and therefore may be wasting their training.

I think the potentials of everyone are similar. I think a woman has the same potential as a man does, but there are societal influences that affect roles and that's the quarrel that I have. I certainly think that given a woman of a certain intelligence level and background and a man of a certain intelligence level and background with the same motivation, it will turn out the same quality physician. But that's without society interfering and saying this person should have a family and stay home and take care of the family, but that is what happens...I think women should seriously consider what they really want to do and it just happens in this society that men are the ones who aren't usually burdened by other roles to play. (Third year student, male)

Another male volunteered a story about a woman who finished training, then had a family and never practiced. He concluded the story as follows:

> *I think that's a waste. I think I would rather see a man put in that spot who will finish. It's easier to assume that men will follow through and make a career of it. There's a lot at stake. The whole country's waiting for enough doctors to fill the need and if one type of person will probably do that better I think that's the type of person that should be accepted. I also get upset because I see women and minorities being accepted who really don't have the qualifications. I think maybe the quality will decline because of that. So I don't really agree with that. (Third year student, male)*

In innovative schools with a higher percentage of women and where the women are often older than the male students, tensions arise due to the differences in life experience and perspective. Males often feel intimidated, afraid to appear prejudiced, and socially less comfortable. Sometimes underlying anger and tension would surface strongly in interviews:

> *Women here are more political than medical. They don't study much, they don't practice much, all they are is a lot of assertiveness. How they will justify their presence in medicine is beyond me, they obviously don't know what they are doing. Medicine should be their primary interest, otherwise they're there under false pretenses. If they want to be politicians, they should be in politics. (Second year student, male)*

One male student was unusually candid about his views on women students in his classes:

> *I can't generalize the differences between men and women on the basis of performance. The way I see it the difference is women are just as bright, just as good at remembering, but not as good at analytical thought or pure intellectual ability. A sense of scatteredness or wasted energy. They are not necessarily born into this but it is a question of the times and the circumstances. My sexist views come more from elsewhere than from medical college experiences. I went to an all men's school where there is an ingrained sense of the inferiority of women. Even if women are bright, they are seen as less capable of making judgements and decisions. They can manage but do not have the same ability for rational judgement. Generally, men are seen as more capable, more responsible, and more is expected from them. Many men have a sense of competition with women. It involves the*

issue of male ego, virility, manliness, leadership. The woman is to follow him. If the woman is equal or better, it is or can be threatening for men. During the freshman year, medical students don't know how to deal with sexuality. As the years go on, you tend to evaluate everybody, male and female, in terms of their professional ability and competence, no matter what their sex. There are always little incidents, but, in general, the atmosphere gets more natural and relaxed. But a good woman can always be defined as the exception, instead of typical. (Fourth year student, male)

Although male students did express negative attitudes about their female colleagues, in general the social atmosphere in medical schools seems to include more camaraderie between male and female students than in the other MODVOPPP health professions. Many of the concerns students had about medical school and training were shared by men and women. In addition, the larger class sizes of medical schools allows for more choice in the formation of friendship groups across sex lines. One affect of this is that women in medicine did not worry as much as did women in other MODVOPPP professions about being outside a male referral network based on professional friendships.

COMPETITION AND ACADEMIC PRESSURE

As in other MODVOPPP professions, only male students expressed much concern about the competition and academic pressures of medical school. This degree of concern varied somewhat depending on schools' grading systems and general atmosphere. In schools with older students, flexible curriculum, and pass/fail grading, competition was minimized a great deal. But, in general, the greatest pressure was felt by males who came to medical school directly from the pre-med experience.

The worse thing for me about medical school is the compulsive competition, the interaction with your fellows, the things that go on like people who will do virtually anything to get a grade. You would get a grade in class not because you necessarily wanted to learn something but to get the grade. People weren't so much concerned with helping other people but with helping themselves so they can get into their goal--medical school, and then a good residency. (Second year student, male)

SUMMARY

Male and female medical students we interviewed shared certain basic concerns about their training experiences--they expressed fears that the professional socialization process would change them into people they don't want to be, they expressed a desire to make the profession more humanistic, and they shared a desire to have lives broader than their profession. The differences stemmed from the dual roles expected and at times demanded of women--dual roles that do not apply to men and cause for women double binds, conflict of work and family life, and extra pressures to prove their competence and commitment. The medical schools reflected the changes occurring in the society regarding role definitions.

> *OK, I see it as a two-stage thing, and I think that's maybe where we're getting caught. Ideally the profession should have room for the different needs of men and women. . . But that's not where we are. Where we are now--we're a minority trying to get in and in that case I think that all the special things that we ask as women are only gonna make it worse rather than making it better. So you know what I see as the reality of today and the ideal for the future are two very different things. For now it's better not to stress the differences. (Fourth year student, female)*

VI. SUMMARY OF FINDINGS AND CONCLUSIONS

We have found medicine to be in a state of great change due to recent social and technological developments. The sum of these developments makes it difficult to determine which of a large number of current trends will become more permanent characteristics of the profession.

We found that medical schools are confronted by a complex set of priorities, including increasing the output of physicians, changing the specialty orientation of new physicians, and maintaining their own fiscal integrity. In addition, many medical schools have responded to federal and professional objectives by admitting much larger numbers of women as first-year enrollees in the very recent past. After examining many of the more recent legislative actions aimed at altering deficiencies in health manpower, we have concluded that these actions seem not to consider, as a matter of course, their possible or probable impact on the entry or practice of women in the profession. This is especially critical since women represent over 40% of the increased enrollment brought about in response to 1971 federal health manpower legislation. We have found that some elements of these policies counter much of the intent of affirmative action retention efforts--that is, the weight of manpower policies is far greater in impact than the weight of affirmative action efforts.

It is our impression that federal manpower policies, while successful in increasing the supply of physicians, are less effective in accomplishing geographic and specialty redistribution. This is due in part to individual decisions made both by medical schools and by students concerned with economic and other factors significant to them, For example both schools and individuals often continue to seek the professional status involved in research and specialization rather than to focus on primary care.

We found that women are entering medicine in larger numbers,although the rate of growth of their participation is slowing. We attribute this growth, in large measure, both to more qualified women seeking admission and to the expansion of the number of first year medical school enrollments.

We did not find affirmative action recruiting efforts to be either significant or widespread. We found that medical schools are sufficiently satisfied by the numbers and qualifications of women applicants that they view recruitment as unnecessary. On the other hand, we found that relatively few women progress directly from college to medical school and that many potential female applicants never apply at all due to societal sterotypes and discouragements. Most women seem to have taken a circuitous route into another professional, occupational, or educational path. Most women reported having "discovered" medicine somewhat late and thus have been compelled to spend additional time in scientific preparation. We have concluded that this educational sequencing accounts, in large part, for the average age of women admittees being somewhat older than that of the men. However, as more women begin to enter the traditional pre-medical path in college, this age differential should narrow.

We found that for some faculty administrative decision-makers in medical school, sex stereotypes based on their prior experiences with women students and women physicians are applied to women applicants to medical school. That is, an economic perspective, which states that women practice fewer hours over their professional lifetime than do men and therefore may not be as good an investment, is used. Our examination of this issue revealed that a number of assumptions about female productivity appear ill-founded. Similarly, new practice patterns are emerging which may result in a narrowing of the different levels of the productivity of men and women practitioners. We have concluded that the lower activity patterns of women in the past may have been due in large part to structural incompatibilities between traditional professional and family roles. These incompatibilities may now be diminishing in strength.

We found that women students still experience great strains in medical school, accounting, perhaps in part, for their somewhat higher non-academic attrition rate. Nonetheless we attribute these strains: to women's lack of confidence about themselves in medicine, based often on prior discouragements from friends and counselors; to the continuing perceptions of significant persons in the medical school environment that women are less able and less legitimate medical students; and to the conflicts

involved in having the responsibilities of both a full time medical student and primary responsibility for the home and children.

While medical schools are enrolling women in ever-greater numbers, we found that medical schools which were more flexible in their practices and policies tended to enroll more women than those which appeared to utilize an informal quota system. Thus, women appeared to be successful applicants more often when selection was based on a fair assessment of their qualifications than on a quota system. Among the flexible policies we found to be helpful to women were experimentations with the admissions system. Schools which were expanding the composition of their admissions committees, changing committee rules and establishing training processes, requiring varied information from applicants, reducing the focus on absolute test scores and grades, revising interview processes, and reviewing committee voting patterns seemed to be admitting more women as a natural byproduct of these activities.

Similarly, we found that those schools which most accurately publicized their formal and informal policies and practices seemed to provide better environments for women. Women students expressed much more satisfaction with their experiences at such schools and revealed that they had encouraged other women to apply to them.

We found a number of exemplary and innovative programs in medical schools, particularly in the area of curriculum sequencing. These programs, when they were both optional and individualized, appeared to reduce much of the stress otherwise encountered in more traditional programs. We have concluded that these programs work best when they are available to all students equally and when they are available throughout the training program. Yet we found that when programs are not continuous they may create avenues for damaging experiences for women. For example, reduced-competition programs such as pass-fail grading systems which terminate at the beginning of clinical training tend to create stresses which may threaten the possibility for equal learning experiences.

We found that the pre-clinical experiences of women students at many schools was inordinately stressful due to discrimanatory practices of male faculty and students that tend to isolate women. The women students often found themselves without support systems such as effective counseling, affirmative action offices, or women's groups. We have concluded that this isolation can be a strong influence on consequent events, such as women dropping out of school, choosing traditional women's specialty areas, dropping out of active practice for long periods, and hesitating to return to medicine from such inactivity.

We found the clinical experiences of women to be often complicated by a lack of facilities, a lack of support services, the loss of pre-clinical peer support, intense scheduling demands, and the lack of flexibility. We conclude that these forces also tend to isolate women. Since this is when they must make their first specialty choice, it is our opinion that many such choices for women are based on a process of elimination or the line of least resistance. By doing this women can avoid additional isolation and other negative experiences in their future careers.

We found that the internship and residency period for women is also stressful due to the scheduling demands of hospitals. By this time in training many women have become anxious concerning the beginning of their families, and many sense that their own biological clocks are at odds with lengthy and demanding graduate training. We found that there are comparatively few opportunities for taking time out from training without penalty or for obtaining part-time training situations. While these options have been shown to work in some settings, we found that administrators are generally opposed to them on a variety of professional and institutional grounds. Many women are opposed to them on the grounds that they may turn out second-class practitioners. Nonetheless, the timing of starting one's family continues to be the one overriding concern of women students and new women physicians.

Similarly, we found few examples of major retraining efforts directed at women practitioners who have been inactive for some time due to family, illness, or other obstacles. We have some indications that such retraining

is done, in the main, on an individual basis only. When retraining occurs, it is often in an area of specialization requiring less intensive training than the specialty originally chosen.

In sum, we conclude that while women may have less difficulty with admissions, they still encounter, in many institutions, a significant lack of support from faculty and peers which may result in some losses in their overall contribution to medicine. Exemplary programs aimed at improving the general student's experiences in medical school often do much to counteract otherwise negative experiences for women. On the whole, we conclude, women are entering medicine on their own merits and, in supportive settings, can be and are working at their highest potential.

VII. RECOMMENDATIONS

Medical schools vary greatly in their sensitivity and responses to the special concerns and issues involved in increasing the participation of women in the profession. But clear positive direction has been set by the AAMC in its Resolution on Equal Opportunity adopted in 1970 by the Assembly of the AAMC.

> The AAMC strongly reaffirms the principle and policy of equal opportunity for education and training in, and the practice of, the health professions without regard to sex, race, creed, color, or national origin. In pursuit of this principle and policy the AAMC:
>
> 1. Requests member institutions to continue to monitor their admission policies and practices to insure equal opportunity of admission to their educational and training programs.
> 2. Requests member institutions to continue to undertake and to reinforce programs of affirmative action to increase the numbers and proportions of students in the health professions from groups which are presently underrepresented in those professions.
>
> Further, recognizing that the underrepresentation of some groups in health professions educational and training programs is but a symptom of broad social and economic problems, the AAMC:
>
> 1. Actively supports the organized study of the basic causes of underrepresentation and possible cures.
> 2. Actively supports the initiation of new programs, and the broadening of existing programs, which are designed to overcome these problems. These programs include, but are not limited to, those designed to permit women to fulfill their educational-professional goals and their cultural roles without sacrifice to either, programs designed to eliminate economic barriers to education in the health professions, and programs designed to develop increased interest in careers in the health professions on the part of members of underrepresented groups at the secondary school and college levels.

The recommendations that follow are general in the sense that they attempt to address a variety of medical schools. In making them we recognize that some schools may already have the wheels in motion to implement them whereas other schools may find them differentially costly or difficult to implement. Many are directed here towards the AAMC as the best dissemination network to reach schools but could be implemented by any single school.

To address the problem of attracting women applicants who might otherwise not consider or who consider and then reject the idea of a profession in medicine, we suggest the following:

- The AAMC and AMWA should encourage and provide consultant services to the public media to portray strong positive role models of women able to fill the roles of mother/wife/physician. In the development of the AAMC's Med-Aware program the media was recognized as a powerful influence in affecting the public's image and understanding of the medical profession.

- Use The Advisor, AAMC's quarterly newsletter to pre-med advisors, as a forum for discussing the affects of sex role stereotyping in education as it influences women's career aspirations particularly in regards to entering a male-intensive medical profession. Positive suggestions for how a pre-med adviser can counter these negative affects should be offered, and general sensitivity to the necessity of encouragement and guidance for women must be stressed. The AAMC can utilize consultants and/or resources within the AMWA for this.

Once a woman has made the decision to join the applicant pool, a new set of problems confront her. Thus:

- The AAMC should provide and publicize to female applicants the formal and informal steps in admissions to minimize the current role of the informal information network and to discuss with women the possible problems they may face. This information can be included in the career planning booklet supplement for women now planned by the MCAAP.

- The National Association of Advisors for the Health Professions should plan panel discussions and offer materials to pre-professional advisors regarding the special problems of discrimination and bias which women may face in admission. Training sessions and aids should be developed and made available to pre-professional advisors to help them prepare women applicants for their interviews. Special attention to the double binds women face regarding presentation of self and how to deal with discrimination and bias should be included.

- Mini-simulations similar to those developed by the AAMC Office of Minority Affairs should be developed through an appropriate agency for women's affairs on how to process women applicants in a fair, unprejudiced way. Admissions committee interviewers

should be briefed and, if possible, trained in interviewing techniques, sensitivity to their own biases, and given a thorough sense of what the school is looking for and how to evaluate those qualities. A clear mandate of non-sex discriminatory admissions should be made by all schools and consultants made available through the AAMC to help schools translate their educational goals into the admissions selection process.

- Research needs to be done by the AAMC's Division of Educational Measurement and Research to provide valid and fair evaluative data regarding women for the schools' use in admissions and academic and clinical evaluations.

This report has presented and documented the stresses and conflicts women experience in their medical training due to conflicts between work and family responsibilities and roles, behavioral double binds, and in enduring incidents of sex bias and discrimination. To begin to address these issues we suggest the following recommendations:

- The AAMC Group on Student Affairs' Committee on Relations with Colleges and Applicants should encourage and provide women medical students to speak to or prepare booklets for prospective women applicants and incoming women students on the issues involved in being a female medical student.

- The AAMC Bulletin should be used to sensitize deans of medical schools to the importance of setting clear policy direction for their school regarding affirmative action. The chief administrators (presidents and deans) of the schools should endeavor to set a tone and atmosphere at their institutions that promotes cooperation between faculty, student body, and administration. To this end, they should endeavor to give clear and positive messages that women are welcome at the school and within the profession. Such statements may be useful in curtailing the expression of negative attitudes and uncomfortable behaviors that women experience. In addition to the necessity of clear policy, seminars, retreats, and individual consultant services should be available to deans through the AAMC for instituting supports needed by the presence of women students.

- Mechanisms should be established at the schools of medicine to enable the women in attendance to identify their problems and to discuss them with the authorities

in the institutions who can address them. Basically, the schools should recognize that the experiences of female students differ in several important respects from those of their male colleagues in the schools of medicine. Also, some means of resolving grievances should be provided. Where possible, insensitive or discriminating faculty, administrators, or students should be provided assistance in understanding and appreciating the negative impacts of their attitudes, and students should have a protected means of reporting incidents of sex-bias. Moreover, all people in the institutions should be made aware of the unique problems that women face in attending schools of medicine through seminars, articles in school communications, or other appropriate means.

We found that the pre-clinical experiences of women students at many schools was inordinately stressful due to discriminatory practices of male faculty and students that tend to isolate women. Women students often found themselves without support systems such as effective counseling, affirmative action offices, or women's groups. We believe that this isolation is a strong influence on consequent events such as women dropping out of school, choosing traditional women's specialty areas, dropping out of active practice for long periods, and hesitating to return to medicine from such inactivity.

- The Office on Institutional Development of the AAMC which now requires schools to provide data on possible discriminatory personnel policies should also require records to identify any patterns and biases (especially unknown and unintended ones) working against women and minority students--for example certain interviewers tending to screen out women and minorities proportionately more often or students accepted more often having letters of recommendation from important practitioners in the profession (active member, officers of local professional associations, etc.). In this way the services will provide assistance to the profession in its overall efforts to establish and maintain equality of access and practice.

- The AAMC should publicize for the schools the Title IX legislative mandate and regulations requiring the abolition of sex discriminatory policies and facilities and offer technical assistance in complying with the legislation. In addition, space should be devoted in journals and time during conventions to the concerns and special issues of women in the profession.

- The AAMC should establish a research committee charged with recommending research designed to learn more about the entry and practice characteristics of women in the profession. Many of the prejudices against women, their capabilities, and their commitments to the profession are based on assumptions and stereotypes that may not be true and which will doubtless require research data to effectively disprove. For example, many hospitals are reluctant to accept women residents because they believe women do not practice the profession once they marry but rather drop out to have children and never return. Whether this is true, the extent to which it is true, and the extent to which women's practice patterns compare to men's are not well-known or documented, yet crucial decisions are made on the basis of what is believed to be true. Thus, research is needed which is designed to determine women's practice patterns in the profession (how many years they practice after graduation; whether they practice full or part-time; whether they practice in private settings, hospitals, or other institutions; whether and when they return to the professional workforce if they do leave it for a time). Research which examines the same issues for men using comparable data and study controls is also needed to assure that no erroneous conclusions are reached from the study data.

- The AAMC Bulletin and the Journal of Medical Education should encourage research into and publish reports of innovative programs that ease the special stresses women experience in their training. We found a number of exemplary and innovative programs in medical schools, particularly in the area of curriculum sequencing. These programs, when they are both optional and individualized, appear to reduce much of the stress otherwise encountered in more traditional programs. We conclude that these programs work best when they are available to all students equally and when they are available throughout the training program.

- Schools should attempt to clarify and publish objectives of clinical training by which students are both subjectively and objectively evaluated, thus reducing student uncertainties over their expectations. Schools should arrange their clinical rotations so that women may serve in them together, thus maintaining group support throughout the clinical years.

- AAMC or the schools should provide realistic counseling for women applicants and first and second year students to the range of specialty and practice options open in medicine and support and encourage them to consider specialties and practice settings in the profession now considered "male".

- The schools should be encouraged to insure equal facilities for women and men students including adequate uniforms in female sizes, and equal lounges and recreational facilities. In addition, women's special needs should be addressed with child care, OB/GYN health coverage; and escort services, lighted parking areas and self-defense courses for women should be available for female students who need to work late in labs or on clinical rotation.

We found that the internship and residency period for women is stressful due to the scheduling demands and conflicts between family and clinics or hospitals. We found that there are comparatively few opportunities for taking time out from training without penalty or for obtaining part-time training situations. While these options have been shown to work in some settings, we found that administrators are generally opposed to them on a variety of professional and institutional grounds.

- The AAMC, the Council of Teaching Hospitals, the American Hospital Association, and other agencies which deal with teaching hospitals should engage in research in determining the real institutional and organizational costs of providing and of not providing part-time and other flexible residencies.

The AAMC and its Council of Teaching Hospitals should engage in systematic research, perhaps through pilot programs, on the various types of part-time residencies, including:

- Two persons sharing one residency
- Part-day residency
- Part-week residency
- Month(s) on and off

Research should include:

- Impact on the institution in terms of cost, scheduling and training quality control
- Impact on patient care
- Degree of desirability for such residencies among male and female fourth year medical students
- Attitudes of house staff and others on their relationship to part-time residents and the eventual quality of part-time programs.

Other important considerations and recommendations regarding postgraduate training and professional practice include the following:

- A leverage point for reaching and affecting the biased attitudes of practitioners could be in the evaluative criteria established by the AAMC in approving internships and placing interns. Since prejudiced attitudes of practitioners sometimes preclude learning and specialty options for women and often negatively affect the quality of the learning environment for women, the AAMC should only approve internships that are open to both male and female students and should periodically review all placements for possible sex biased attitudes.
- Schools should assign clinical rotations so that women are never isolated as the only woman in a group.
- The AAMC liaison Committee in Graduate Medical Education and the Council of Teaching Hospitals (COTH) in its COTH Report are important vehicles for alerting personnel involved in clinical placements to the existence and cost of the sex bias of practitioners. Sensitivity and technical assistance workshops, seminars, and materials should be made available through this network to teaching hospitals.
- The AAMC should conduct systematic research on continuing education programs for active physicians which may or may not address the needs of the inactive, partially inactive, or re-entering physician. This research should also measure the costs of retraining inactive practitioners against the costs of training new practitioners.
- The AAMC should begin to make use of untapped resources and address the problem of invisible role models by formally encouraging (and when appropriate recruiting and appointing) women to accept leadership positions in the association. It should continue to set clear policy direction regarding the right and acceptability of women in the profession through materials and editorials in journals.

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APPENDIX A

SUMMARY OF INDIVIDUAL AND GROUP INTERVIEWS NUMBER OF SCHOOLS VISITED, OTHER CONTACTS WITH THE MEDICAL PROFESSION

A. NUMBER OF SCHOOLS VISITED: Nine

B. BREAKDOWN OF INDIVIDUAL INTERVIEWS:

	Male	Female	Total
Administrators			
1. Deans, Presidents, Chancellors	10	--	10
2. Assistant or Associate Deans	11	5	16
3. Affirmative Action Officers	--	5	5
4. Other Administrators	11	15	26
TOTAL	32	25	57
Faculty			
1. Pre-Clinical	8	13	21
2. Clinical	19	21	40
TOTAL	27	34	61
Students			
1. First Year	6	21	27
2. Second Year	4	13	17
3. Third Year	2	9	11
4. Fourth Year	1	5	6
5. Unknown Year-in-school	2	13	15
TOTAL	15	61	76
GRAND TOTAL	86	132	218

C. GROUP INTERVIEWS

Male		Female		Mixed		Total	
# of Groups	Est. Avg. (N=7)	# of Groups	Est. Avg. (N=7)	# of Groups	Est. Avg. (N=8)	# of Groups	Est. Total
4	28	13	91	0	0	17	119

D. INTERN AND RESIDENT INTERVIEWS:

	Male	Female	Total
1. Site Administrators	3	1	4
2. Interns and Residents	9	11	20
TOTAL	12	12	24

E. OTHER CONTACTS

By telephone: The American Medical Association, the American Association of Medical Colleges, and the American Medical Women's Association

Visits: The American Medical Association, the American Association of Medical Colleges, and the American Medical Women's Association

Letters: The American Medical Association, the American Association of Medical Colleges, and the American Medical Women's Association

APPENDIX B

SUMMARY OF MAJOR PROFESSIONAL ASSOCIATIONS

The Association of American Medical Colleges

The Association of American Medical Colleges (AAMC), founded in 1876, is responsible for the development and general administration of the Medical College Aptitude Test (MCAT), the American Medical College Application Service (AMCAS), and the Medical College Admissions Assessment Program (MCAAP). With other major medical, hospital, and education associations, it sponsors the National Intern and Resident Matching Program (NIRMP) and the Coordinated Transfer Program (COTRANS) for US citizens studying abroad.

The AAMC provides major linkages among institutions and associations involved in undergraduate and graduate health education through the Coordinating Council on Medical Education and its own Council of Deans, Council of Academic Societies, Council of Teaching Hospitals, and Organization of Student Representatives. It also participates in the Federation of Associations of Schools of the Health Professions in the development of legislative alternatives and health manpower data bases and information systems.

The AAMC engages in substantial research in medical education and provides programs and instruments to assist evaluators and legislators in meeting their objectives. In concert with other health associations, the AAMC engages in continuous dialogue with the US Congress and federal agencies on new legislation affecting medical education and medical practice. For example, it has promoted specific positions on issues ranging from the financing of medical education to the maldistribution of physicians to National Health Insurance. It is involved in professional issues as well ranging from the practices of hospital staff to Professional Standards Review Organizations (PSRO).

In addition, the AAMC has specific programs assisting in the development of medical educational institutions (via Executive Development Seminars) and medical faculties. It also provides new programs assisting both minority and non-minority students in preparation for entrance to medical schools.

The AAMC publishes an array of significant communications in medical education, including major directories such as the Medical School Admissions Requirements (40,000 copies distributed in 1974), AAMC Directory of American Medical Education, and AAMC Curriculum Directory. Its periodicals include the President's Weekly Activities Report (on both AAMC and federal activities that have a direct effect on medical education, biomedical research, and health care) and the prestigious monthly Journal of Medical Education (JME). The JME reports much of the research on current issues in medical education such as the utility of the MCAT, the participation of women in medicine, innovations in curriculum, evaluation of educational objectives and outcomes, and so on.

In addition, the AAMC publishes a more specialized group of communications, including, among others, The Advisor, a newsletter on medical education made available to pre-professional advisors, The AAMC Bulletin, and the AAMC Education News.

The American Medical Association

The American Medical Association (AMA), founded in 1847, includes among its membership approximately two-thirds of the nation's 366,000 physicians. Its functions include keeping members informed on significant medical and health legislation, representing the profession with the Congress and governmental agencies, cooperating in setting standards for medical schools and hospital intern and residency training programs, and maintaining statistical information on medical manpower. It publishes a number of weekly and monthly journals on general and specialized topics for practitioners and researchers.

The American Medical Women's Association

The American Medical Women's Association (AMWA), founded in 1915, seeks to find solutions to problems common to women in medicine and provides women students with educational loans and personal counselling. It publishes a monthly Journal of the American Medical Women's Association.

The Association for Hospital Medical Education

The Association for Hospital Medical Education (AHME), founded in 1954, is an affiliation of physician directors of medical education in hospitals and clinics, and conducts educational programs and workshops in continuing medical education.

The American Medical Students Association

The American Medical Students Association (AMSA--formerly the Student American Medical Association), founded in 1950, includes a membership of over 60,000. It serves as a mechanism through which students may actively participate in addressing general political and social issues in the health care delivery system as well as issues of particular concern to students. A review of recent issues of one of its official monthly publications, The New Physician, reveals the following current concerns:

- Need for rural medicine
- Need for primary care medicine
- Curricular changes
- Treatment of students, interns, residents
- Shortages in research funds
- Maldistribution of specialists
- Increasing competition for medical school admission
- Personal lives of students and their spouses
- Unionization of interns and residents
- Current health manpower legislation
- A matching system for externships
- The participation of women in medicine

The National Board of Medical Examiners

The National Board of Medical Examiners (NBME), founded in 1915, prepares and administers the fundamental licensure examinations of medical school graduates. It also assists in policy setting for certification of graduate medical training and assists medical institutions in the evaluation of the effectiveness of their educational programs.

American Boards of Medical Specialty

Medical residents in the United States may become certified in specialty areas by spending some time in supervised graduate training and by examination by approved specialty boards. As of 1973, physicians could be certified by the appropriate specialty board in the following areas.

NUMBER OF CERTIFIED PHYSICIANS, BY SPECIALTY: 1973

	Total Certified
Allergy and Immunology	440
Anesthesiology	5,762
Colon and Rectal Surgery	403
Dermatology	2,960
Family Practice	5,756
Internal Medicine	26,987
Neurological Surgery	1,577
Nuclear Medicine	1,277
Obstetrics-Gynecology	11,903
Ophthalmology	7,018
Orthopaedic Surgery	7,450
Otolaryngology	4,853
Pathology	8,300
Pediatrics	13,944
Physical Medicine and Rehabilitation	863
Plastic Surgery	1,150
Preventive Medicine	2,348
Psychiatry and Neurology	11,001
Radiology	10,461
Surgery	17,954
Thoracic Surgery	2,589
Urology	3,923
TOTAL	148,919

Source: "Medical Education in the United States, 1973-74", A. Crowley, 74th Annual Report, Journal of the American Medical Association, p. 54, Table 32.

APPENDIX C

SUMMARY OF STUDENT GROUP INTERVIEW ISSUES REGARDING PROFESSIONAL TRAINING

INTRODUCTION

URSA used two primary techniques for interviewing students about their professional training experiences in general and about the problems they encounter in gaining access to and pursuing professional training in particular. Each produced a different set of issues and different emphases.

URSA adapted a planning technique known as the Delbecq Nominal Group Process into a form of group interview which we used to surface from groups of students a broad spectrum of problems and issues they encounter in professional training. The groups were small--typically numbering less than twelve--and they included all female groups, mixed male/female groups, and all male groups. The group interviews gave us insights into which of the problems most group members shared, which seemed to present the greatest obstacles in professional training, and which are controversial.

URSA also conducted a series of individual one-on-one interviews with male and female students. The individual interviews often touched on problems and issues not raised in the group interviews because they might be considered "too personal", because they needed direct probes and encouragement to surface, because they were not shared by other members in the group, or because they were not directly related to the question the group was asked to address.

The list of problems included in this Appendix and the analysis which precedes it represent only those issues raised in group interviews by students in response to a single question posited them by the URSA field team. The list does not include any additional issues--and there were many--which surfaced in individual interviews.

As the study progressed, URSA used several questions in the group interviews, changing them to allow us to probe or follow new areas of concern. As most were non-productive (see VOLUME I on Methodology), this Appendix includes only responses to the question: "Given your experiences and observations, what problems does a woman encounter in becoming an X (doctor, dentist, etc.)?" for women, "Given your experiences and observations, what problems does a person encounter becoming an X?" for mixed groups, and "...what problems does a man encounter in becoming an X?" for the men.

Group members were given approximately ten minutes to write their responses to the question on a card, and the answers were recorded without discussion on easel pads so that all members of the group could see the responses. The list of problem categories included and discussed below was generated from the responses on these cards and on the easel pads. In most cases different issues were raised by men and women, but in all cases where the problem category was shared, it was discussed in different contexts, with different emphases, and in terms of a differential impact on men and women.

Generally the problems mentioned clustered into six categories: structural features of the school(s), profession(s), or sex roles; absence or inadequacy of programs, services, facilities, or equipment provided by the training institutions; problems with characteristics of the profession and its work; access to resources required to consider the profession, be admitted to school, and to participate fully in professional practice; negative attitudes and behaviors of peers, faculty, practitioners, and clients; and the impact on oneself of all of the above.

STRUCTURAL FEATURES OF THE SCHOOL(S), PROFESSION(S), OR SEX ROLES

This category includes all those structural features of the profession or school that affect women's experiences in training as well as structural consequences of societal sex roles which reflect the society's assumptions about appropriate roles for men and for women. By appropriate roles we mean those behaviors, feelings, attitudes, skills, attributes, characteristics, and motivations we usually associate with one sex to a greater extent and/or more often than with the other. Structurally, for women, this refers to the specific sets of responsibilities delegated to them by the society on the basis of their gender. Issues raised by women students in this category include:

Lack of Role Models

Basically this is an issue of how many and where women faculty appear in the schools. At some schools the problem is that there are no women faculty or clinicians at all to whom female students can look for evidence that a woman "can do it." In other schools, women appear only in what students consider the lesser status positions (e.g., Basic Science Instructors) which women students feel is a statement about a woman's proper role within the profession. At the few schools in which women clinicians appear in high level positions, some female students may reject them as unacceptable role models because the women have not managed to balance professional success in filling other feminine roles.

Lack of a Support Group of Women

Women students hope and sometimes expect that support from other women will help offset the social and professional isolation they feel in the male environment of the professional schools. The lack of such support is a severe disappointment and often aggravates the pressures of loneliness and isolation. This is a direct result of few numbers of women in a class or school and is compounded by differences in age and marital status.

Being Tracked into a Limited Range of Specialties or Practice Opportunities

This problem has two aspects. Certain specialties and practice options in each of the professions are labeled as more or less appropriate for women. To some degree these labels are consistent with commonly held stereotypes regarding women in this society. For example, the specialties involving work with children are all considered appropriate for women. Similarly, regarding practice options, those that involve supervising a staff and running a business are generally regarded inappropriate for women. For most women in making the decision regarding specialty selection or practice choice, the stereotypes and pressures to go into one rather than another

selection are important. More important, though, are those problems arising from the necessities in a woman's life of carrying responsibility for both a family and a profession. This consideration, and at times necessity, works to track women into those specialties or practice options that are most easily controlled in terms of numbers of hours worked.

Balancing Work/Family

The years of professional training coincide in our society with a woman's childbearing years. To the extent that women are primarily responsible for the home and children, the problems of time management, energy commitment and sheer logistics in being a full-time student and committed practitioner and wife/mother at the same time create a tremendous pressure and problem for women that men do not experience. This is the single most widespread, cross-professional issue of which women spoke. If the women were not already in the position of managing both wife/mother and professional (student) roles, they anticipated that they would in the future.

Women at a Disadvantage Due to Background or Physical Ability

In some professions women feel that they have a distinct disability or handicap due to their background and socialization as women or due to physical size. In dentistry, for example, a familiarity with tool use and terminology is important and often assumed by the schools. Many women spoke of the problems they encountered in picking up such skills and information that the schools assumed they had but didn't (and that many male students did, in fact, have). In other professions where physical size and strength are important, women spoke of the difficulties and inequities in trying to learn techniques that were developed for the male physique.

Social Problems: Fear of the Impossibility of Finding a Mate

Women in all the MODVOPPP professions speak of some problems with dating men who do not understand, support, or accept their choice of a male profession. In medicine women speak of the fear of never finding a male who could accept their high status, high pay, and strong professional commitment. This problem is uniquely women's because it is an accepted pattern in our society for men to marry women who have less social status and less earning power than they. For women in professions with top status and pay, the range of men for whom they make appropriate matches tends to be limited to the men within the profession who might be more successful than they.

ABSENCE OR INADEQUACY OF PROGRAMS, SERVICES, FACILITIES, EQUIPMENT AND OTHER SUPPORTS OR RESOURCES

When schools fail to provide, or provide inadequate, resources in the learning environment and training program, difficulties are caused for women. This becomes an issue when their special or equal needs are not met by the physical plant. For example, when uniforms, lab coats, surgical gowns, etc., are not available in women's sizes women have to wear things too big for them or dress in the uniforms of other health professionals (such as clerks in pharmacies, nurses in surgery). Changing rooms, lounges, women's toilets, and on-call sleeping facilities are often not as available and accessible to women as to men. Health care services or insurance often do not

cover gynecological and family planning services. Child care is not available. Escort services are not available for women working late in labs, clinics, or libraries.

CHARACTERISTICS OF THE PROFESSION AND ITS WORK

Issues in this category were only mentioned by male students. The category includes features of the work or of the profession which create a pressure on the student and on the practitioner. For example, the life or death responsibility of a physician is felt heavily by medical (both MD and DO) students who feel a special necessity for learning everything possible while in training, for developing emotional means of dealing with that responsibility, and for demanding a more than full-time dedication and commitment from themselves and their peers. An issue more widespread among the MODVOPPP professions has to do with the relative status of a profession vis-à-vis the medical profession. Particularly in the lesser known professions that are struggling with the medical profession for recognition and control over practice rights, the lower status is seen by male students to be a large obstacle to public acceptance.

ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES REQUIRED TO CONSIDER PROFESSION, BE ADMITTED TO SCHOOLS, OR ESTABLISH FULL PROFESSIONAL PRACTICE

Lack of Encouragement and/or Information

Given the rigors of training and the added pressures for women in a male profession, institutional and informal supports are vital. Women feel a lack of encouragement and support and at times experience direct discouragement. Particularly in the decision to pursue a profession the amount and extent of information and encouragement given women is vital. Although men spoke of a lack of information as an issue for them in the lesser known MODVOPPP professions, it is even more difficult for women. A related issue is access to information passed along informal networks that do not include women--e.g., fraternities, golfing partners, etc., giving helpful hints or suggestions for "how to get what you want" peculiar to the profession.

Access to the Profession's Informal Network of Practitioners

Women experience problems in this area both in training and when trying to obtain access to internships, residencies, or jobs. While in training, women report they are left out of the informal male network in which information is exchanged, support given, and friendships formed. These settings include fraternities, men's changing rooms, golf, and other athletic teams. Women worry that this will result in being left outside the referral and job network when they become practitioners. All students, male and female, worry about getting jobs, internships, and residencies. Women devote much of their energy in this regard to figuring out how to deal with the well-documented and well-known prejudices against women held by practitioners. This increases the pressure on women to "prove" themselves, reinforces the feeling that they aren't welcome in the profession, and most importantly, represents a real obstacle to women in getting through training and into professional practice. Jobs passed from fraternity brother to fraternity

brother, practitioners relying on informal recommendations from their friends regarding which applicants to accept to their practice, and prejudices about the abilities and competencies of women all result in important limits on women's access to these positions.

Absence of Appropriate Personal Characteristics and Attributes Required of Students, Practitioners

This problem was expressed in resentments and statements made by male students in their group interviews and by women in terms of the main stereotypes which the women feel are used to challenge their presence in the schools and in the professions. Frequently mentioned stereotypes include: "women are too emotional", "women are only accepted because they are women", "women are less dedicated", "women are only here to prove something", "women are not good at analytical thinking", "women are too indecisive to be good managers".

Absence of, Concern about Ability to Meet Formal Requirements of Students, Practitioners

This category of issues was mentioned only by men in most professions. It was expressed as concern about passing courses, passing the National Licensing Boards, etc.

Access to Financing

The financial burden of training is felt by both male and female students, but it is expressed to a different degree and in different contexts. For women it is harder to earn money before and while in training. The jobs available to women often pay less money, and in some professions where jobs are available to the untrained (e.g., veterinary clinic assistant), women are not given the jobs. While in training women report they believe it is more difficult for women to get adequate loans. Parents are often less willing to support a woman than a man through expensive and long training. Spouses are less often available as a source of support for women.

NEGATIVE ATTITUDES AND BEHAVIORS OF OTHERS

This category includes the constellation of attitudes, reactions, and behaviors which women face daily in the training environment.

Incidents of Sexism in the School

We heard many and various reports of jokes at the expense of women--e.g., denigrating comments, nudie slides in lectures, actions or comments aimed at embarassing or "putting down" women, intentional or unintentional use of language in such a way as to ignore or put down women. The majority of these incidents were performed by male peers or male faculty.

Resentments by Male Peers

This resentment is primarily expressed by male students in regard to competitive situations in the profession. For example, it includes resentments that women in school are taking a man's place, that women getting jobs means less for men. It also includes beliefs that women get special treatment by admissions committees, faculty members, and clinicians. Another source of resentment from male peers regards the amount of sexuality that is regarded

as appropriate in women. At some schools males express disapproval of the women for stepping outside the boundaries of a traditional woman's role, thus in some way challenging their own assumptions about and ways of dealing with women.

Client Prejudices

This category includes both real and anticipated problems with patient disbelief, distrust, and sometimes refusal to be treated by a female practitioner. The result of these prejudices is that while in training women may be denied important learning opportunities, while in practice it may be more difficult for them to get patients, and in all cases they must anticipate the necessity of proving their competence.

The Prejudices of Staff and Employees in Clinic Settings

In the professions that include a business or managerial component, prejudices and unwillingness of employees and staff to be supervised by a woman is particularly difficult. In all the professions, respect and acceptance as a professional by other health workers is essential. Women report that respect and acceptance are denied them because of their gender.

THE IMPACT ON ONESELF OF STRUCTURAL FEATURES, THE ATTITUDES, AND BEHAVIORS OF OTHERS, OF THE TRAINING PROCESS ITSELF

All of the above listed problems mentioned by women have some impact on their own feelings about themselves and their profession, on the choices they make, and on their behaviors.

Women's Double Binds

This category was variously described by women as "walking a very thin line", "damned if you do, damned if you don't", and "you can't win as a woman and as a professional." Standards of professional behavior conflict with standards of feminine behavior and women are caught in the middle, particularly in situations requiring aggressiveness, decisiveness, or managing others.

Women's Feeling That They Must Work Harder to Prove Themselves

The combined pressures and impact on women of stereotypes that challenge women's abilities, competencies and commitments result in women reporting the following kinds of problems: women fear making mistakes or taking risks; they fear speaking up or asking questions that might be considered stupid; they feel they have to work twice as hard to be recognized by faculty; women feel reluctant or unable to ask for any special support or help out of fear that the request would reinforce negative stereotypes about women.

Problems with Maintaining Relationships/Other Interests

This has most to do with the emotional strain, academic time pressures, and isolation of being a health profession student. Both male and female students feel cut off from friends not in training with them, and they experience problems in finding energy to devote to significant relationships and in lack of time to spend on other interests. While these problems were mentioned with equal emphasis by both men and women, for women the problems of isolation and being cut off from people outside of the training experience increases the difficulties they experience of being isolated within the training environment, too.

Competition and Academic Pressures

Only male students have expressed this as a concern in each profession, and it appears to be a central problem for them.

Feeling You Must Turn Off Your Emotions

Although related to double binds for women where expressing emotion is considered inappropriate as professional behavior, this is a specific issue that was raised by both men and women. Professional conduct and the pressures of dealing with many cases in a small amount of time demands a certain distancing on the part of the practitioner. Women and some men take issue with these demands because they feel it cuts off a part of them that is (and in their minds, should be) a part of their medical involvement.

Concern That The Training Process "Changes Who You Are"

Again, a concern shared by male and female students, this relates to all the ways in which they feel the professionalization process demands conformity to a single model of professional conduct and attributes.

Three Summary Checklists of Group Interview Issues follow. The first compares women's concerns among the eight MODVOPPP health professions included in this study; the second compares men's. The third compares men's and women's responses in this profession only.

SUMMARY CHECKLIST OF FEMALE GROUP INTERVIEW ISSUES

COMPARATIVE MODVOPPP PROFESSIONS

	M	O	D	V	O	P	P.	P
STRUCTURAL FEATURES								
Lack of Role Models	•	•				•		•
Lack of Support Group of Women		•				•		•
Tracked into Limited Specialties/Options	•	•	•	•		•	•	
Balancing Work/Family	•	•	•	•	•	•	•	
Women's Disadvantage in Background or Size		•	•	•				
Social Problems	•							
ABSENCE OR INADEQUACY OF FACILITIES	•	•	•	•		•		
CHARACTERISTICS OF THE PROFESSION AND ITS WORK								
Life and Death Responsibility								
Relative Status of the Profession					•			•
ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES								
Lack of Encouragement and/or Information	•	•	•	•	•		•	•
Access to the Informal Network	•	•	•		•	•	•	•
Absence of Required Personal Attributes	•	•	•	•	•	•	•	•
Absence or Concern about Meeting Formal Requirements			•			•	•	
Access to Financing	•	•	•	•	•	•	•	
NEGATIVE ATTITUDES/BEHAVIORS OF OTHERS								
Incidents of Sexism	•	•	•	•	•	•	•	•
Resentment by Male Peers	•	•	•	•	•	•	•	
Client Prejudices	•	•	•	•	•	•	•	
Staff/Employee Prejudices	•		•			•	•	•
IMPACT ON SELF OF TRAINING								
Double Binds	•	•	•	•		•	•	•
Women Feel Must Work Harder	•	•	•	•	•	•	•	•
Problems with Maintaining Relationships	•	•	•	•		•		
Competition and Academic Pressures								
Feeling You Must Turn off Emotions	•	•	•					•
Concern That the Training Process Changes You	•							

SUMMARY CHECKLIST OF MALE GROUP INTERVIEW ISSUES
COMPARATIVE MODVOPPP PROFESSIONS

	M	O	D	V	O	P	P	P
STRUCTURAL FEATURES								
Lack of Role Models								
Lack of Support Group of Women								
Tracked into Limited Specialties/Options								
Balancing Work/Family								
Women's Disadvantage in Background or Size								
Social Problems								
ABSENCE OR INADEQUACY OF FACILITIES								
CHARACTERISTICS OF THE PROFESSION AND ITS WORK								
Life and Death Responsibility	•	•						
Relative Status of the Profession		•	•		•	•	•	•
ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES								
Lack of Encouragement and/or Information								•
Access to the Informal Network								
Absence of Required Personal Attributes								
Absence or Concern about Meeting Formal Requirements		•	•		•	•	•	•
Access to Financing	•	•	•	•		•	•	
NEGATIVE ATTITUDES/BEHAVIORS OF OTHERS								
Incidents of Sexism								
Resentment by Male Peers								
Client Prejudices								
Staff/Employee Prejudices								
IMPACT ON SELF OF TRAINING								
Double Binds								
Women Feel Must Work Harder								
Problems with Maintaining Relationships	•	•		•		•		
Competition and Academic Pressures	•	•	•	•		•	•	•
Feeling You Must Turn off Emotions								
Concern That the Training Process Changes You	•	•						

SUMMARY CHECKLIST OF GROUP INTERVIEW ISSUES

MEDICINE	WOMEN	MEN
STRUCTURAL FEATURES		
Lack of Role Models	•	
Lack of Support Group of Women		
Tracked into Limited Specialties/Options	•	
Balancing Work/Family	•	
Women's Disadvantage in Background or Size		
Social Problems	•	
ABSENCE OR INADEQUACY OF FACILITIES	•	
CHARACTERISTICS OF THE PROFESSION AND ITS WORK		
Life and Death Responsibility		•
Relative Status of the Profession		
ABSENCE OF OR DIFFICULTY IN GAINING ACCESS TO RESOURCES		
Lack of Encouragement and/or Information	•	
Access to the Informal Network	•	
Absence of Required Personal Attributes	•	
Absence or Concern about Meeting Formal Requirements		
Access to Financing	•	•
NEGATIVE ATTITUDES/BEHAVIORS OF OTHERS		
Incidents of Sexism	•	
Resentment by Male Peers	•	
Client Prejudices	•	
Staff/Employee Prejudices	•	
IMPACT ON SELF OF TRAINING		
Double Binds	•	
Women Feel Must Work Harder	•	
Problems with Maintaining Relationships	•	•
Competition and Academic Pressures		•
Feeling you must Turn off Emotions	•	
Concern that the Training Process Changes You	•	•

APPENDIX D

SUMMARIES OF CHARACTERISTICS OF SCHOOLS AND INTERVIEW RESPONDENTS IN EIGHT MODVOPPP PROFESSIONS

SCHOOL VISIT SITE SELECTION BY CHARACTERISTICS

	# of Field Sites	Urban	Rural	North Central (1)	South	Northeast	West	Public	Private	Free-Standing	Univ. Affiliate	Physically Indep.	Medical Center	Part of Campus	High Status (2)	Low Status (2)	High % Women Enrolled (3)	Low % Women Enrolled (3)
Medicine	9	8	1	1	3	2	3	5	4	1	8	1	2	6	6	3	7	2
Osteo. Med. (4)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A	N/A	1	1
Dentistry	5	5	Ø	Ø	2	1	2	3	2	Ø	5	1	2	2	2	3	4	1
Vet. Med.	2	1	1	1	Ø	Ø	1	2	Ø	Ø	2	Ø	Ø	2	N/A	N/A	1	1
Optometry	2	2	Ø	Ø	Ø	1	1	1	1	1	1	1	Ø	1	1	1	1	1
Podiatry (4)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A	N/A	2	Ø
Pharmacy	3	3	Ø	Ø	Ø	1	2	1	2	1	2	1	1	1	1	2	2	1
Pub. Hlth.	2	2	Ø	Ø	1	Ø	1	1	1	Ø	2	1	Ø	1	2	Ø	2	Ø
TOTAL	27	21	2	2	6	5	10	13	10	3	20	5	5	13	N/A	N/A	20	7

(1) The four regions are comprised of the following states:

North Central: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Idaho, Wisconsin, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming.

South: District of Columbia, Maryland, West Virginia, Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia.

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, Delaware, New Jersey, New York, Pennsylvania.

West: Arizona, New Mexico, Oklahoma, Texas, Colorado, Alaska, California, Hawaii, Nevada, Oregon, Washington

(2) Where known or applicable, status is defined as the degree of respect accorded a given institution by members of the same profession.

(3) Higher or lower than the national proportion of women enrolled by profession.

(4) This information has been intentionally omitted since the combination of characteristics might identify which schools were visited. Thus totals for site characteristics do not add to 27.

SUMMARY OF INDIVIDUAL INTERVIEWS

		Administrator Interviews															Faculty Interviews								
	# of Schools	Deans, Presidents, Chancellors			Asst. or Assoc. Deans			Affirmative Action (1)			Other Admin. (2)			Total Admin.			Pre-Clinical Faculty			Clinical Faculty			Total Faculty		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Medicine	9	10	--	10	11	5	16	--	5(1)	5(1)	11	15	26	32	25	57	8	13	21	19	21	40	27	34	61
Osteo. Med.	2	3	--	3	4	--	4	--	--	--	4	1	5	11	1	12	5	--	5	4	6	10	9	6	15
Dentistry	3	5	--	5	13	--	13	--	--	--	1	4	5	19	4	23	5	3	8	16	5	21	21	8	29
Vet. Med.	2	1	--	1	4	--	4	--	1	1	3	2	5	8	3	11	2	2	4	9	5	14	11	7	18
Optometry	2	3	--	3	2	--	2	--	--	--	2	2	4	7	2	9	4	1	5	3	1	4	7	2	9
Podiatry	2	2	--	2	3	1	4	1	--	1	1	2	3	7	3	10	3	10	13	5	1	6	8	11	19
Pharmacy	3	3	--	3	6	--	6	--	--	--	5	6	11	14	6	20	4	3	7	5	4	9	10	7	17
Pub. Hlth. (5)	2	1	--	1	2	1	3	--	--	--	--	1	1	3	2	5	N/A	N/A	N/A	5	5	10	5	5	10
TOTALS	27	28	--	28	45	7	52	1	6	7	27	33	60	101	46	147	31	32	63	67	48	114	98	80	178

(1) Of the 5 Affirmative Action, 4 were university-wide and therefore covered, in three instances, dentistry, and in one instance, pharmacy, as well as medicine.

(2) Includes Registrars, Business Managers, Administrative Assistants, Directors of Special Programs, Centers, Institutes or Grants, Financial Aid Officers.

SUMMARY OF INDIVIDUAL INTERVIEWS (Continued)

Individual Student Interviews																			Intern & Resident Interviews									Total Respondents		
1st Year			2nd Year			3rd Year			4th Year			Unknown Or "Other" Students			Total Individual Students (3)			Site Admin.			Interns & Residents			Total Admin., Interns & Residents							
M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
6	21	27	4	13	17	2	9	11	1	5	6	2	13	15	15	61	76	3	1	4	9	11	20	12	12	24	86	132	218
3	3	6	1	2	3	2	4	6	--	1	1	--	--	--	6	10	16	←				N/A				→	26	17	43
1	7	8	5	9	14	1	--	1	2	7	9	4	1	5	13	24	37	1	--	1	--	2	2	1	1	2	54	37	91
5	4	9	2	5	7	--	4	4	--	2	2	--	1	1	7	16	23	1	--	1	2	3	5	3	3	6	29	29	58
--	4	4	1	5	6	3	2	5	1	5	6	--	--	--	5	16	21	←				N/A				→	19	20	39
--	1	1	--	2	2	1	2	3	4	2	6	--	--	--	5	7	12	1	--	1	3	--	3	4	--	4	24	21	45
--	1	1	--	5	5	1	7	8	1	2	3	6	7(4)	13(4)	8	22	30	←				N/A				→	32	35	66
6	7	13	--	--	--	--	--	--	--	--	--	--	--	--	6	7	13	1	--	1	2	4	6	3	4	7	17	18	35
21	48	69	13	41	54	10	28	38	9	24	33	12	22	34	65	163	228	7	--	7	16	20	36	23	20	43	287	309	595

(3) Male students were not a key respondent group in the study until after submission of the Interim Report at which time the study's focus was expanded to include them in greater numbers. The imbalance between male and female student interviews remains because URSA visited half of the schools in the study (14 of 27) prior to the Interim Report.

(4) Includes 1 fifth-year and 1 sixth-year student.

(5) Hospital Administration and Epidemiology faculty and students combined. Due to varying lengths of training programs, all Public Health students arbitrarily counted as first-year students.

MODVOPPP GROUP INTERVIEW SUMMARY

	Male		Female		Mixed		Total	
	# of Groups	Estimated Average N=7	# of Groups	Estimated Average N=7	# of Groups	Estimated Average N=8	# of Groups	Estimated Total
Medicine	4	28	13	91	--	--	17	119
Osteo. Med.	3	21	3	21	1	8	7	50
Dentistry	1	7	8	56	1	8	10	71
Vet. Med.	--	--	5	35	3	24	8	59
Optometry	2	14	3	21	1	8	6	43
Podiatry	1	7	2	14	--	--	3	21
Pharmacy	2	14	6	42	1	8	9	64
Pub. Hlth.	1	7	1	7	--	--	2	14
TOTAL	14	98	41	287	7	56	62	441